

Railway Age

OCTOBER 6, 1945

Founded in 1856

THE LATEST IN LOCOMOTIVES

Powered WITH A TURBINE—*Piped* WITH
BYERS WROUGHT IRON



With the tips of its blades traveling almost at the speed of sound, the turbine on this new Pennsylvania Railroad locomotive spins tiny jets of steam into 6900 horsepower. This newest development in motive power was undertaken to investigate the possibilities of turbine operation in opening the way to higher speeds and greater operating efficiency. It is a real tribute to the pioneering spirit of a great railroad, and to the engineering skill and experience of The Baldwin Locomotive Works that built the locomotive, and Westinghouse Electric Corporation, that manufactured the turbine and gears.

As in locomotives of more conventional design, a high degree of durability and dependability is needed in the piping, and the designers took care of the problem in a familiar way, by installing Byers Wrought Iron.

An increasing number of railroads are utilizing Byers Wrought Iron for an increasing number of locomotive pipe jobs. The material has been installed in 30 reported

services, and the list of applications could almost be given alphabetically, from Air Pump, Blower, Compressed Air and Draw Pin Oiler lines down through Reversing Shaft Counter Spring Case, Super-Heater Steam Lines, and Tender Stoker pipe.

This widespread use of wrought iron is due to its unusual service qualities, which in turn come from its unusual nature. The tiny fibers

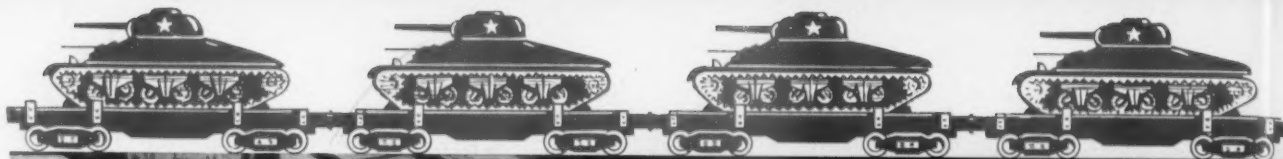
of glass-like silicate slag threaded through the body of high-purity iron give a structure something like that of a stranded wire cable. The pipe is thus able to resist vibration and shock that would cause early fatigue-failure in ordinary materials. This same composition also gives a high degree of corrosion resistance. In addition the material is readily formed, threaded and welded, which recommends it to the shop.

Our General Catalog gives complete dimensional information on Byers Pipe, as well as on Hot Rolled Products. If you do not have a copy in your files, we will be glad to send you one.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS GENUINE WROUGHT IRON TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE ALLOY STEELS • OPEN HEARTH ALLOY STEELS
CARBON STEEL TUBULAR PRODUCTS



End-of-War Report

TO AMERICAN RAILROADS

AMCCW congratulates the American Railroads on "doing the impossible" in wartime. We know that it's still being done . . . that the "Cease Firing" order has not meant "Cease Redeploying"

We know what your problems have been because we have been confronted with the same over-all conditions. And figures show that we too have been producing. Our records show an increase in the number of chilled car wheels made and shipped *and an increase of over 200% in gross ton miles per wheel above the pre-war period on all Class 1 railroads.*

AMCCW research activities have been carried on. New metals and designs have been studied and tested, new developments brought nearer to the foundry-production stage. And, as railroad improvements emerge from research laboratory into actual service, you can be sure that better-than-ever chilled car wheels will be among them.



ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

230 PARK AVENUE, NEW YORK 17, N. Y. • 445 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILL.

Organized to achieve: Uniform specifications — Uniform inspection — Uniform product



The Ajax cup, long a favorite with railroads and passengers, offers new opportunities for the railway passenger car designs. The elliptical open wedge-shape makes practical the use of the deluxe panel-type Ajax recessed dispenser. The filling of the dispenser with cups is accomplished easily and quickly by opening the hinged panel and the wall space required is only 14 1/2" high, 5 1/2" wide and 2 1/2" deep.

Another recessed type of Ajax dispenser is shown at the right. In this case the dispenser is attached to the rear of the partition. The Ajax cups ready for use by passengers are withdrawn through a recess in the front of the partition conveniently placed with reference to both water faucet and used cup receptacle.



In this view the water service with its panel-type Ajax recessed dispensing unit is installed in the narrow space adjacent to the baggage rack located in the aisle of the car.

Blueprints and complete specifications upon request.

C-248

LOGAN DRINKING CUP CO., Division
68 Prescott Street, Worcester 5, Mass.

U. S. ENVELOPE CO., San Francisco Division
416 Second Street, San Francisco 7, Calif.

Divisions of United States Envelope Co.

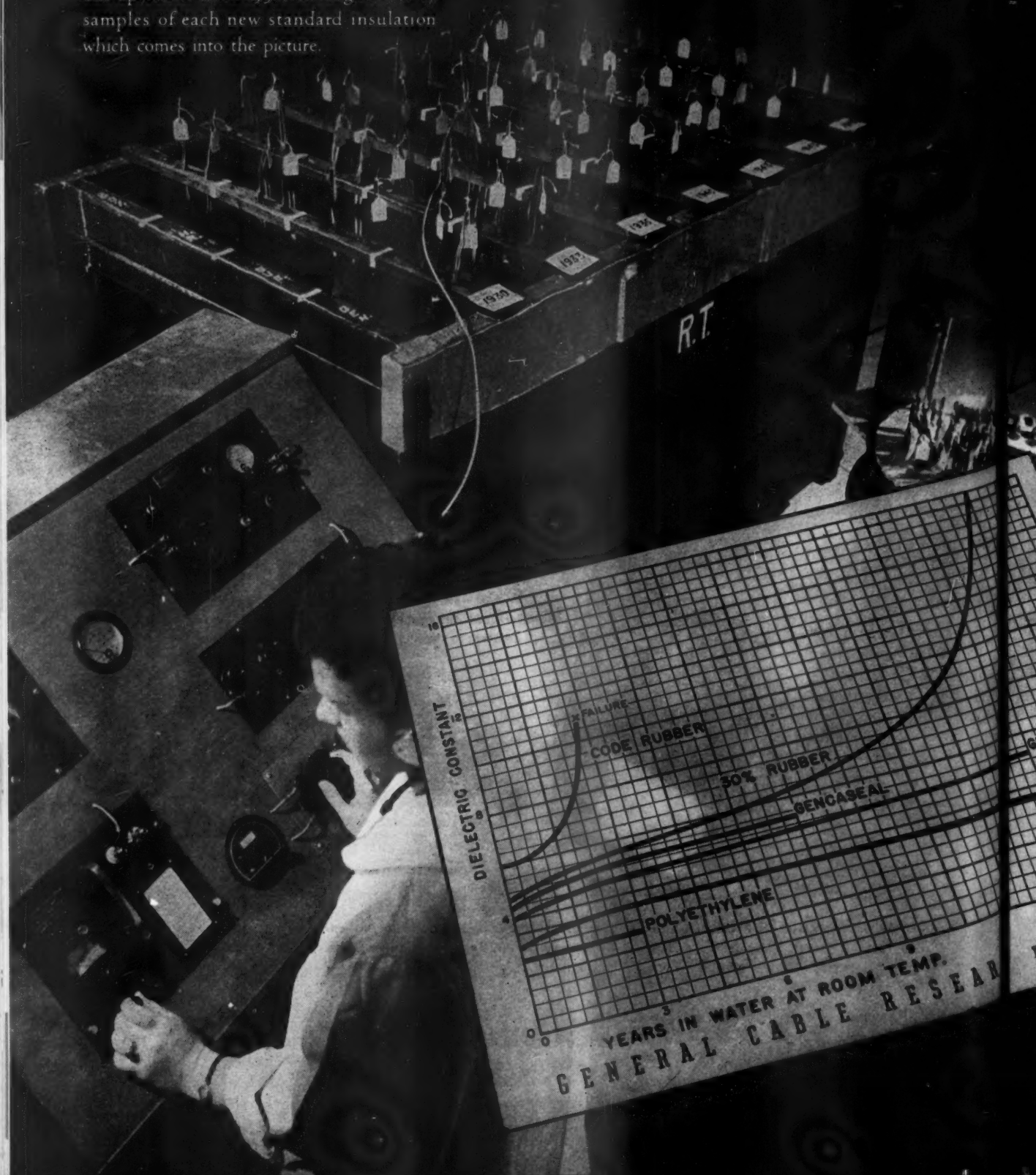
AJAX

PAPER DRINKING CUPS



RESEARCH..

These moisture absorption tests in continuous operation since 1930, are augmented by samples of each new standard insulation which comes into the picture.



..BY DECADES

Preparedness for Post-War
Industry Developments
based on cumulative data
long in preparation

In the comparison of rubber insulating compounds and the new synthetics, it is easy and hazardous to jump at conclusions. Through the years, General Cable has been broadening its base of data by which to predict with some assurance the performance to be expected of the new materials. And out of practical experience, it recognizes, too, that there is no substitute for time in the determination of the industry's final answers.

These and other tests, extending over years of simulated service conditions, prepare General Cable to furnish synthetic insulations for all operating conditions.

GENERAL CABLE CORPORATION



General Cable Corporation Sales Offices are located at Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Houston, Kansas City (Mo.), Los Angeles, New York, Philadelphia, Pittsburgh, Rome (N.Y.), St. Louis, San Francisco, Seattle, Washington (D. C.)





Bendix
V.H.F.
Radio

Emergency "SLOW-TONE"
Supplements Hand Signals.

* Trade Mark registered by Bendix Aviation Corporation

Better Engineered **FOR** *Easier* **Engineering!**



Bendix Radio engineering is a logical source from which to expect finer V.H.F. (very high frequency) radio equipment for *railroad* communication.

Bendix was the first to mass-produce V.H.F. radio for the Army Air Forces!

Bendix, in fact, supplied more of this equipment than all other manufacturers combined—earned for itself the “greatest name in aircraft radio.”

That's why *Bendix* V.H.F. Radio can do a better, lower-cost job for *your Railroad*—establish

clearer vocal contacts between train directors, yardmasters, switch engine crews. Or from end to end, train to train, and train to wayside. It's better engineered!

Bendix V.H.F. is compact, saves valuable space, operates economically on very low power, is easy to maintain due to special sealed construction preventing damage from dust and fumes.

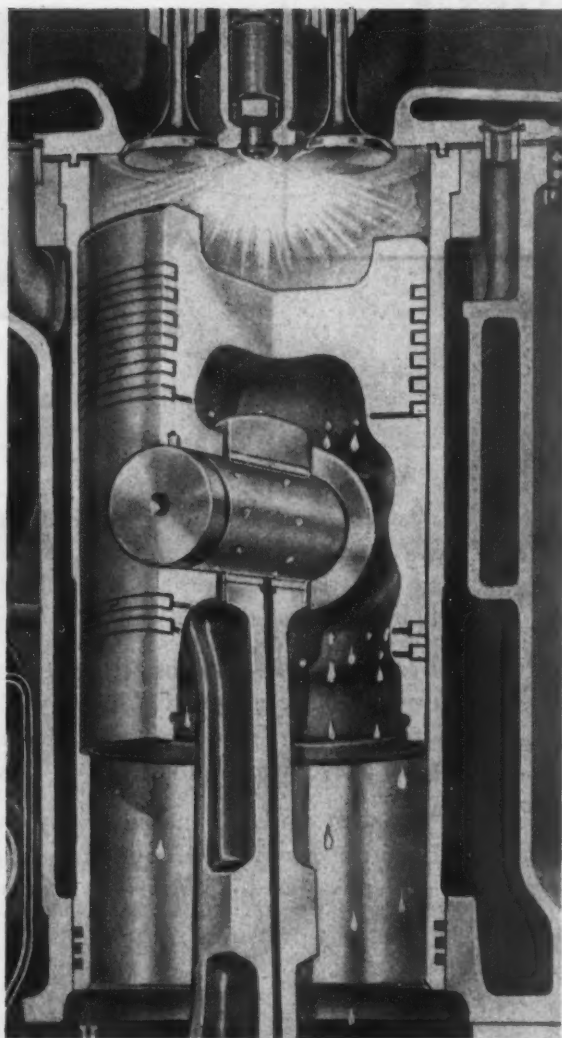
You can find out more about Bendix V.H.F. Radio by writing or contacting the plant direct —Bendix Radio Division, Baltimore 4, Md.

Another example of Bendix engineering foresight—the Emergency “SLOW-TONE”, an accessory unit for use with Bendix Train Communication Systems, provides automatic warning of emergency conditions to all radio equipped trains in the vicinity.

BENDIX RADIO DIVISION • BALTIMORE 4, MARYLAND



Save Maintenance Manpower and Costs!



SOCONY-VACUUM OIL COMPANY, INC.
Standard Oil of N. Y. Division • White Star Division •
Lubrite Division • Chicago Division • White Eagle
Division • Wadhams Division • Magnolia Petroleum
Co. • General Petroleum Corporation of California:

NEW ADVANCES IN LUBRICANTS

by SOCONY-VACUUM stretch
time between Overhauls
of Big Diesels, Track Tools!

THIS cutaway takes you directly to the source of greater Main Line Diesel availability—*inside the cylinder*.

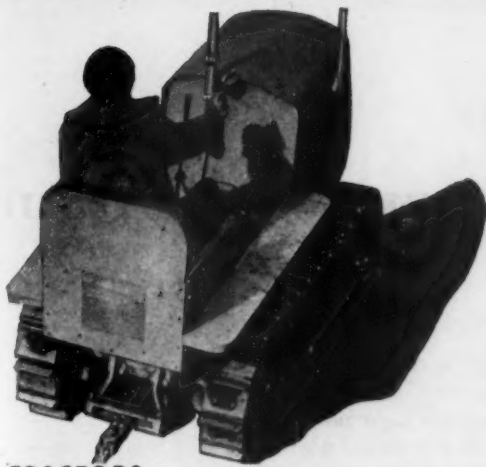
Here oil must keep rings, pistons and valves *free*, to prevent excessive power loss. To keep wear at a minimum, its film must be strong enough to resist rupture, even when squeezed to microscopic thinness.

Gargoyle D.T.E. Oils (Nos. 1 to 5) are specially refined to do these two important jobs. Not only do they reduce carbon formation to an absolute minimum, but any deposits which do form are soft and fluffy—do not cause rings to stick.

These famous oils are also giving this same high performance in large stationary and marine Diesels.

For your automotive-type Diesels, Delvac 900 Series Oil meets the special requirements of these smaller, high-speed engines.

Ask your Socony-Vacuum Representative for the correct grades for your Diesels. You'll save man-hours and repairs...assure engines "ready-to-run" at all times.



TRACTORS. Socony-Vacuum oils help keep engines *clean*... protect valves, rings, bearings against undue wear... assure more economical engine operation. Socony-Vacuum greases provide excellent lubrication for all chassis fittings... seal out grit, dirt, water.

LESS WEAR AND LONGER LIFE FOR MAINTENANCE-OF-WAY EQUIPMENT

The 3 R's of good lubrication are your best cue to more efficient track tool operation. These are—the *right oil or grease*, applied in the *right place* and in the *right way*.

To help you get these, Socony-Vacuum has worked closely with builders, and developed special railroad lubricants which provide highest possible lubricity, reduce wear to a minimum, assure more continuous operation of all tools and their motors.

Ask your Socony-Vacuum Representative to recommend the oils, greases and hydraulic fluids exactly right for your maintenance-of-way equipment...and to assist you in their correct application.



HEAVY EQUIPMENT. Special Socony-Vacuum products cling to heavy exposed gears, cushion shock loads, protect gear teeth. Special transmission lubricants will not channel, keep gears well lubricated at all times. Special oils help assure continuous full power from engines.



AIR TOOLS. On jack hammers, tie tampers and other air-driven maintenance equipment, Socony-Vacuum oils protect moving parts against wear...resist washing action of water. Other quality lubricants are specially refined to provide best protection for air compressors.



IT PAYS TO KNOW WHAT'S NEW IN LUBRICATION

SOCONY-VACUUM

OIL COMPANY, INC.

TUNE IN "INFORMATION PLEASE"—MONDAY EVENINGS, 9:30 E.W.T.—NBC

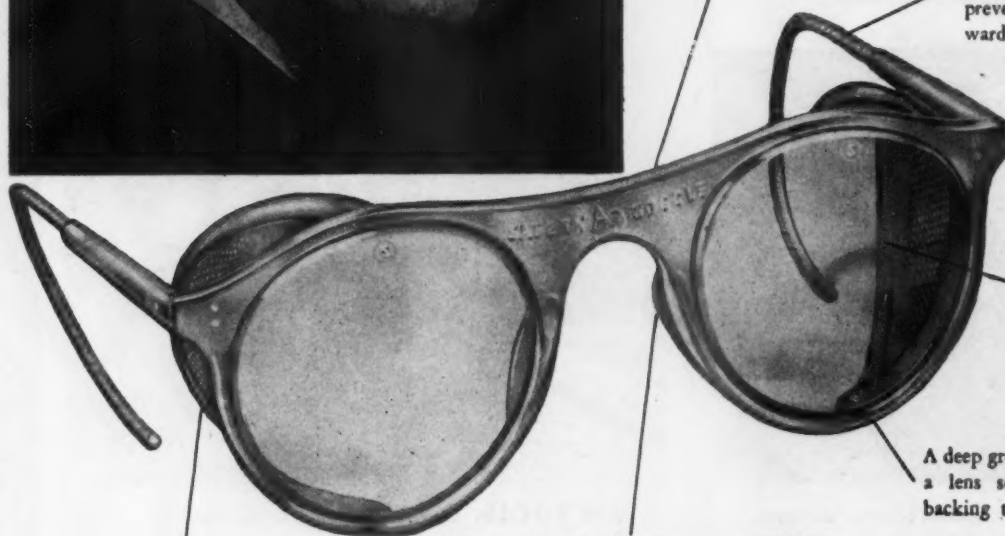
6 FEATURES make AO FUL-VUE ACETATE GOGGLES.....

SAFE, COMFORTABLE, ATTRACTIVE



Stronger, more sturdy front than on ordinary acetate frames. Bridge has a slight amount of face form to give added side protection.

Comfort cable temples hold goggles snugly in position—prevent them from sliding forward on nose.



6-curve Super Armorplate lenses shaped to conform to and cover orbit of eye, provide maximum protection and vision, plus better appearance.

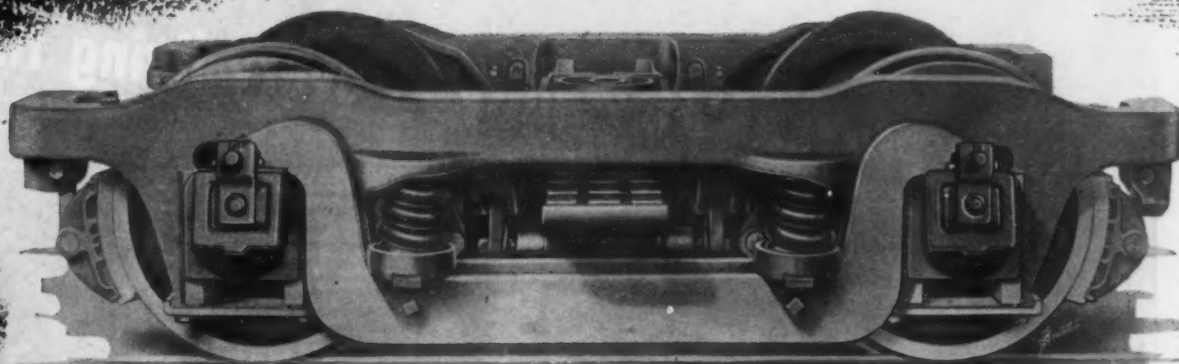
A deep groove in lens rim forms a lens seat with substantial backing to resist severe impact.

Nose pads have well-rounded edges and ample flare to withstand ordinary jolts and blows.

Acetate side shields protect against particles striking from sides. Perforated to provide ventilation and help keep lenses from fogging.

AO Ful-Vue Acetate Goggles come in three eye sizes and three bridge sizes—made in transparent acetate, with or without side shields, with clear or Calobar 6-curve Super Armorplate lenses. Your nearest AO Representative can supply you. Call him today.

American  Optical
COMPANY
SOUTHBRIDGE, MASSACHUSETTS



Specially Designed
For ALL Types of
EXPRESS-
MERCHANDISE
CARS...



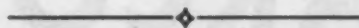
Florida East Coast Ry.—
 50 Box Cars for Express Service—
 Built by Magor Car Corp.

This COMMONWEALTH EQUALIZED SWING-MOTION TRUCK meets every demand for a safe, practical, light-weight truck for express, refrigerator or other commodity cars operating in fast passenger train service.

Two spring systems—full elliptic bolster springs and equalizer coil springs—give increased spring capacity. Swing hanger arrangement

permits lateral control, providing better riding with less damage to car contents, car body, and track. The truck is designed for either clasp or single shoe brakes.

As more and more merchandise traffic operates at higher speeds, the need for this COMMONWEALTH TRUCK has become increasingly vital.



Nature provides flexibility in every living thing

BARCO

provides flexibility
for the mechanical
world of movement

Flexibility is vital in any fluid-conveying system. For over 30 years, engineers in every field of industry and transportation have found that Barco Flexible Joints provide reliable protection against breaks and leakage in fluid lines. By means of responsive movement, Barco compensates for contraction and expansion, absorbs the destructive action of vibration and shock. Barco's range of design provides for every flexible joint problem. Technical Engineering Information always available. Barco Manufacturing Co., Not Inc., • Winnemac Avenue, Chicago 40, Illinois. In Canada: The Holden Co., Ltd., Montreal Canada.



BARCO FLEXIBLE JOINTS

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY



"MOVE IN

EVERY

DIRECTION"

Not just a metal joint...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.



on
LAND
on SEA
and in the
AIR

TRAVEL
COMFORT
CUSHIONS

The NEW YORK CENTRAL *System*

has attained

The **ULTIMATE** in Luxurious Riding Comfort

for 233 of their new Streamlined Coaches
by installing

TRAVEL COMFORT CUSHIONS*

TRAVEL COMFORT CUSHIONS* are designed and engineered for every specific job they are to perform. The quality of all component parts is positively controlled and continuously checked, assuring maximum durability, strict uniformity and superlative service.

TRAVEL COMFORT CUSHIONS*
are therefore

Fully Guaranteed

McINERNEY SPRING AND WIRE COMPANY

Factories: Grand Rapids, Michigan and Passaic, New Jersey

SALES OFFICES: 645 Godfrey Ave., S. W., Telephone 6-1481, GRAND RAPIDS
CHICAGO — 205 W. WACKER DRIVE FRANKLIN 5700
DETROIT — 911 FISHER BUILDING MADISON 4425

**Benefit
FEATURES**

- Cool and Resilient
- New Comfort for Passengers
- Trouble - Free Maintenance
- A Long-Lived, Profit - Making Investment

*Trade
Mark

Ideal for Train or Plane, For Bus or Truck, For Transit Cars or Cabs

WINTER KINGS

*have licked the problem
of keeping switches open*



- 1** Compact overall dimensions: 18 in. long, 4½ in. wide, 7½ in. high, including flanges.
- 2** Flanges at burner end protect ties from the flame.
- 3** Sliding cover facilitates heat regulation.
- 4** Fuel opening is protected by self-closing cap. Heater can safely be filled while flame is burning.

Bethlehem's Winter King Switch Heater is the ounce of prevention. But its value is greater than the biggest pound of cure you ever tried.

This simple, compact, and inexpensive heater fights snow as it falls and thereby keeps switches open. Since it's always on the

job, it's a 'round-the-clock guardian of your switch points — eliminating freeze - ups far more effectively than manual methods.

The Winter King burns low-cost kerosene. Its 1½-gal. fuel chamber holds sufficient oil for 9 to 15 hours of burning, depending upon the severity of the storm. Four heaters to a side are usually recommended on 16½-ft. switches. The amount of heat can be regulated by a cover that slides easily over the combustion chamber.

If you haven't yet tried the Winter King, ask a Bethlehem man for full details. He'll be glad to show you why thousands of these economical heaters have proved so effective in New York, Philadelphia, Boston, Buffalo, Chicago, and other areas where Old Man Winter is an annual hazard.


Filling is so easy that one man can handle a large number of Winter Kings.



BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

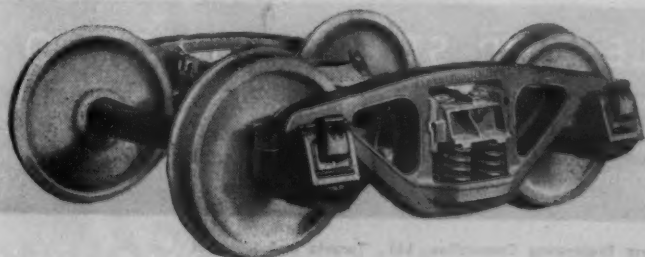


Riding Ease, Safety, Low Maintenance...these are fundamental modern requirements which the A.S.F. Ride-Control Truck fully satisfies, yet this better, smoother-riding truck is in the weight and price class of conventional designs. It's the modern freight car truck for cars of all types

MINT-MARK OF  FINE CAST STEEL

Over 17,000 car sets are already in service or on order by 43 railroads and private car owners.

A.S.F. Ride-Control TRUCK (A-3)
NO SPRING PLATES—NO SPRING PLANKS



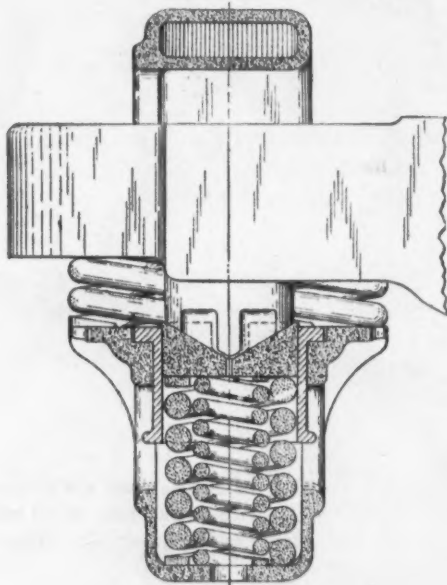
LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL

**AMERICAN
STEEL
FOUNDRIES**
CHICAGO

National B-1 *With Dual Control*



The Truck for post-war fast freight service



Section Thru Control Unit
Two Control Units in each frame

Full protection of cars and lading, rails and road-bed, is essential for economical railroad operation.

A smooth-riding car relieves the car and contents from damaging vibrations and shocks, reduces wear on track and car structure, and greatly lengthens the life of equipment.

The National B-1 Truck is equipped with four built-in friction units which control both vertical and horizontal oscillations. No separate snubbers are necessary.

The frictional snubbing action is governed by the load carried, thus assuring a smoother riding car whether light or loaded.

Specify National B-1 Trucks with Dual Control

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND OHIO

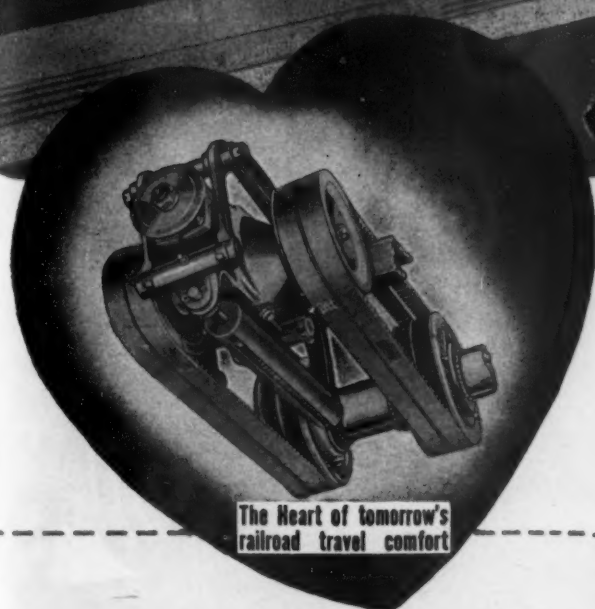
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: Railway and Power Engineering Corporation, Ltd., Toronto and Montreal



THE NIGHT CLUB CAR...
Another new idea that will
make railroads tomorrow's
preferred form of travel



Some of the advantages of the Dayton "D-R" V-Belt Axle Drive

1. Quiet and smooth performance with high availability—in 15 years a mechanical failure due to V-Belts has never been reported.
2. Provides a flexible, cushioned connection between the car axle and the driven unit that protects generators and other equipment should a mechanical failure occur.
3. It is convenient and economical to install . . . no complicated or expensive truck changes are necessary . . . no special axles are necessary.
4. Duplicate equipment is not necessary to take care of emergencies—when wheel changes must be made, only the axle pulleys need to be removed.
5. It greatly reduces maintenance cost on mechanical equipment as well as on the drives themselves.
6. It imposes a minimum weight on the car axle.
7. It is easy and simple to install, safe and dependable in operation, and insures uninterrupted performance.

Such luxury deserves the most dependable under-car drive that can be built!

It's a winning combination—beauty, deep-cushioned lounge chairs, soft music, and gaiety *PLUS* air conditioning that has the proper "feel", and "mood" lighting that doesn't let you down when the mood is just right. But there must be both! That's why creators of tomorrow's trains insist on the *EXTRA* dependability that Dayton "D-R" V-Belt Axle Drives provide. They know Dayton's give the highest performance and safety factors of any under-car drive built. That's why more than twice as many cars are equipped with Dayton V-Belt Axle Drives for air conditioning than with any other drive. A Dayton railway specialist will gladly show you proof why most railroads prefer and specify Dayton's. Write today.

THE DAYTON RUBBER MANUFACTURING COMPANY
DAYTON 1 • OHIO

Railroad V-Belts by

Dayton
DAYTON RUBBER MANUFACTURING COMPANY
Rubber

THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

★ 40 YEARS OF RESEARCH IN NATURAL AND SYNTHETIC RUBBER ★

Car Wheel Demounting Records

40 Seconds

Floor - to - floor

72 Seconds

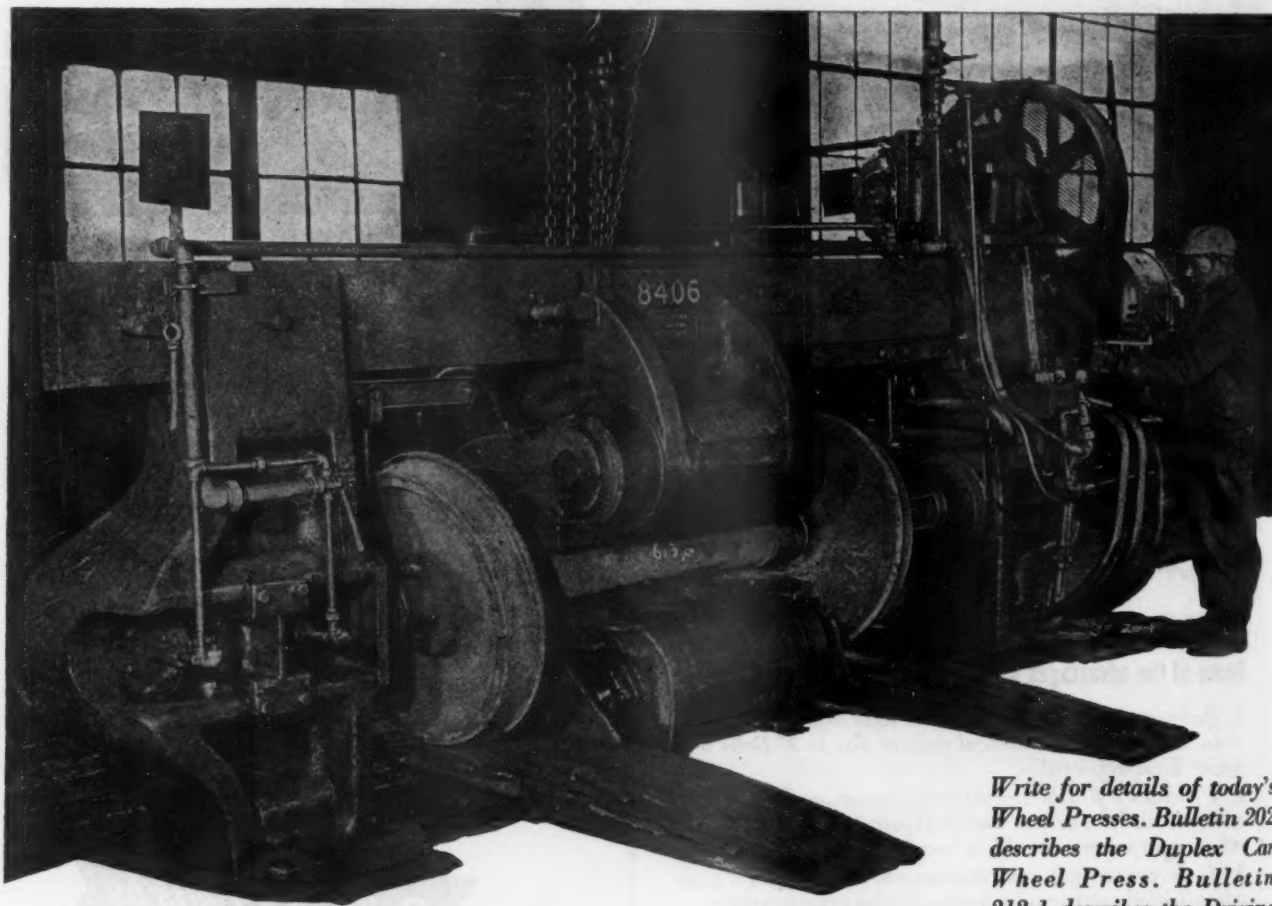
for Mounting

Chambersburg Wheel Presses have established records in railroads shops all over the country for the speed with which they permit the rapid mounting or demounting of wheels. On the car wheel presses, records have been made for demounting wheels as low as 40 seconds per

wheel floor-to-floor—mounting time as rapid as 72 seconds.

These presses have been designed and improved with the needs of the railroad shop constantly in mind—the necessity for speed in getting car wheels back in service has been paramount.

(Below) Chambersburg Duplex Car Wheel Press in shops of L. & N. R. R.



Write for details of today's Wheel Presses. Bulletin 202 describes the Duplex Car Wheel Press. Bulletin 212-1 describes the Driving Wheel Press.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.



CHAMBERSBURG

HAMMERS · CECOSTAMPS · PRESSES

KOPPERS

and the *Railroads*



ROOF REPAIRS MAY TAKE 6 MONTHS; EXAMINE YOUR ROOFS NOW

Many roofers are six months behind on their repair orders . . . and it can be a pretty serious matter for a railroad if one of its roofs begins to leak. Examine your roofs now and get your repair orders in with a Koppers Approved Roofer. You can get, for reroofing work, the same long-lasting, maintenance-free coal tar pitch materials which are so good on new roofs. Send for the Koppers Roofing Specifications book.

KOPPERS DIVISION MAKES 200,000-MILE CYLINDER PACKING

American Sectional Packing is used in main cylinders. The Bronze-Iron Cylinder Packing developed by American Hammered engineers is giving service up to 200,000 miles. Bronze and alloy cast iron segmental wearing rings are used side by side in the grooves of the pistons. The bronze rings burnish the cylinders in such a way as to cause a large reduction in the wear on both cylinder and piston.



PRESSURE-TREATED WOOD INCREASES TRESTLE LIFE 4 OR 5 TIMES

On some railroads, average life of untreated trestles is as little as eight years, whereas pressure-treated structures are still in good condition after 30 to 40 years and longer.

Buy Victory Bonds . . . and keep them!

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

KOPPERS COMPANY, INC., Pittsburgh 19, Pa.

THEY GO TOGETHER

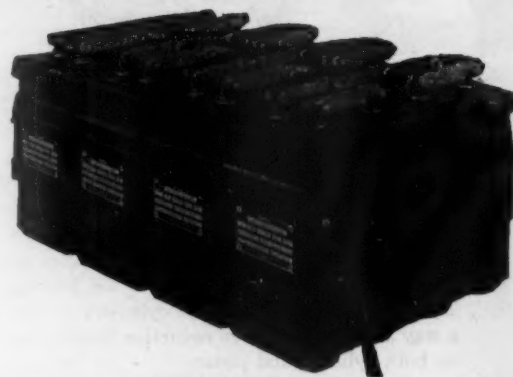


... **STRONG LIGHTS** . . **COMFORTABLE CARS** . . AND **EXIDES**

On thousands upon thousands of coaches and Pullmans, trustworthy Exide Batteries are on duty day and night . . . keeping lights bright and air-conditioning units functioning smoothly, even during long stops.

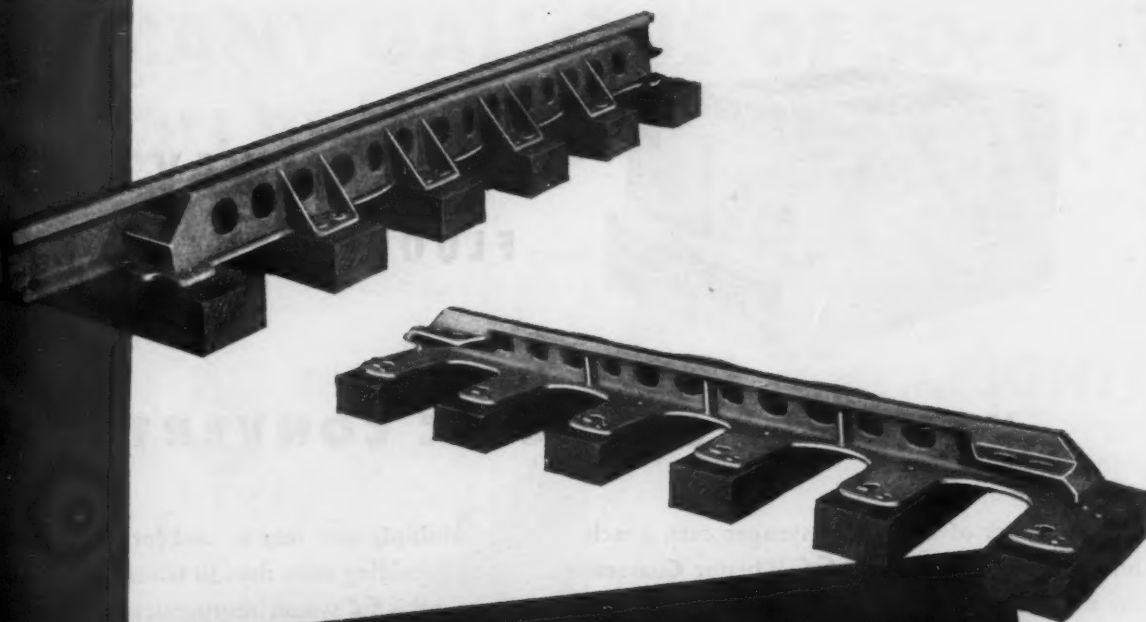
Exide Batteries have the extra power and ruggedness required to withstand the terrific strain of present day transportation. Abundant evidence of this ability has already been supplied. More will be forthcoming in the busy days ahead.

Since 1891, Exides have been serving America's railroads with dependability, long-life and ease of maintenance. When you buy an Exide, you *Buy to Last*.



Exide BATTERIES

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto



**PROTECT POINTS
IN HIGH-SPEED HEAVY TRAFFIC**
with the **RACOR** manganese steel
one-piece guard rail

In main tracks or yards, no matter how heavy the congestion, there's one sure way of protecting frog points. That's the installation of the RACOR Manganese Steel One-Piece Guard Rail.

This improved device is based on the original, successful pioneer Ajax guard rail design. Its manganese steel guarding face offers a high resistance to abrasion and the shocks of impact. Its bottom flange is continuous throughout the length upon which the running rail bears, so that the weight of traffic serves to resist the tendency to dislodgement. Thick walls, large fillets and ample plates and braces also assure long life. Guard rail can be applied on ties spaced 19" to 20".

Ramapo-Ajax engineers are in a specially favorable position to help you, drawing upon an extensive background of track and track-work specializing.

AMERICAN

Brake Shoe

COMPANY

RAMAPO AJAX DIVISION

2000 N. MICHIGAN AVE., CHICAGO 4, ILL.

New York

Niagara Falls, N. Y.

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St. Louis, Mo.

New York, N. Y.

Pueblo, Colorado

Worcester

Los Angeles, Cal.

Seattle, Washington



FOR RAILWAY FLUORESCENT LIGHTING

YOU NEED **E-L** DC-AC CONVERTERS

For all types of railway passenger cars, coach, lounge, diner and sleeper, **E-L** Vibrator Converters are the most efficient, most economical means of providing for the operation of fluorescent lighting—as well as radiotelephone equipment, standard broadcast receivers and electric razors.

Because fluorescent lighting is the preferred illumination for new and converted cars, operators who provide it will win increased passenger satisfaction. Not only do fluorescent lamps provide twice the light of incandescent lamps of equivalent wattage, but also better light distribution, as well as more restful, natural illumination.

SPECIALLY DESIGNED FOR RAILWAY USE—A compact, lightweight power conversion system—developed by **E-L** especially for railway applications—operates ten 42" Slim-Line fluorescent lamps from 32 volts DC or any other input voltages desired.

Multiple units may be used for larger numbers of lights. Providing more than 30 lumens of light per input watt, this **E-L** system incorporates dual series circuits and the simplicity of series wiring. Individual lamp control is provided where required. Inherent voltage regulation gives a constant level of light at all times.

E-L Vibrator Converters have been thoroughly tested and proved in railway car installations, assuring long service, minimum maintenance.

E-L FLUORESCENT DC-AC CONVERTER

Model 2026—This model (shown above) operates ten 42" "slim-line" fluorescent lamps. Available for the following input voltages: 12, 24, 32, 110, or 600 volts DC. Provides instantaneous starting and high efficiency. Dimensions: 14 $\frac{5}{8}$ x 13 x 8.



VIBRATORS AND VIBRATOR POWER EQUIPMENT FOR LIGHTING, COMMUNICATIONS, ELECTRIC AND ELECTRONIC APPLICATIONS

HOW MANY GALLONS OF 50¢ OIL CAN YOU BUY FOR ONE DOLLAR?

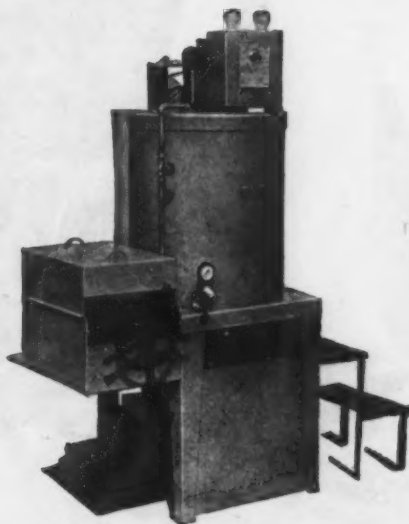


TWO?..... wrong



THREE...OR FOUR OR MORE...**RIGHT!**

**THIS
DOES IT**



THE YM OIL REFINER

This is one of the new models of the YM Oil Refiner. Units are available in many sizes.

The YM unit is *not* a mere filter — it's a *real oil refiner!*

The YM Refiner removes *all* of these contaminants: fuel dilution; water, even when emulsified; gums, asphaltic materials, "gunk" that's dissolved in the oil itself. It brings acidity down to new oil values.

And it does all these things economically...without any pre-settling or pre-treatment!

With the YM Refiner, you use the same oil over and over again...no need to discard a single quart. And your machinery is safeguarded from the damage that contaminated oil can cause.

Another point: oil refined in the YM unit is outstanding in anti-varnish properties. The YM removes sludge accumulations—prevents their formation. Oil refined in a YM unit is *aged... more stable.*

You can use the YM unit to restore used lubricating oils—cutting and hydraulic oils—transformer oils—Diesel and gasoline engine oils. Users near you can tell you how effectively the YM Oil Refiner has served them.

And we'll be glad to show you how much *you* can save by its use!

THE YOUNGSTOWN MILLER COMPANY

A Subsidiary of

**Walter Kidde & Company, Inc.
1020 Kidde Avenue, Belleville 9, N. J.**

Save OIL...and you save MACHINERY

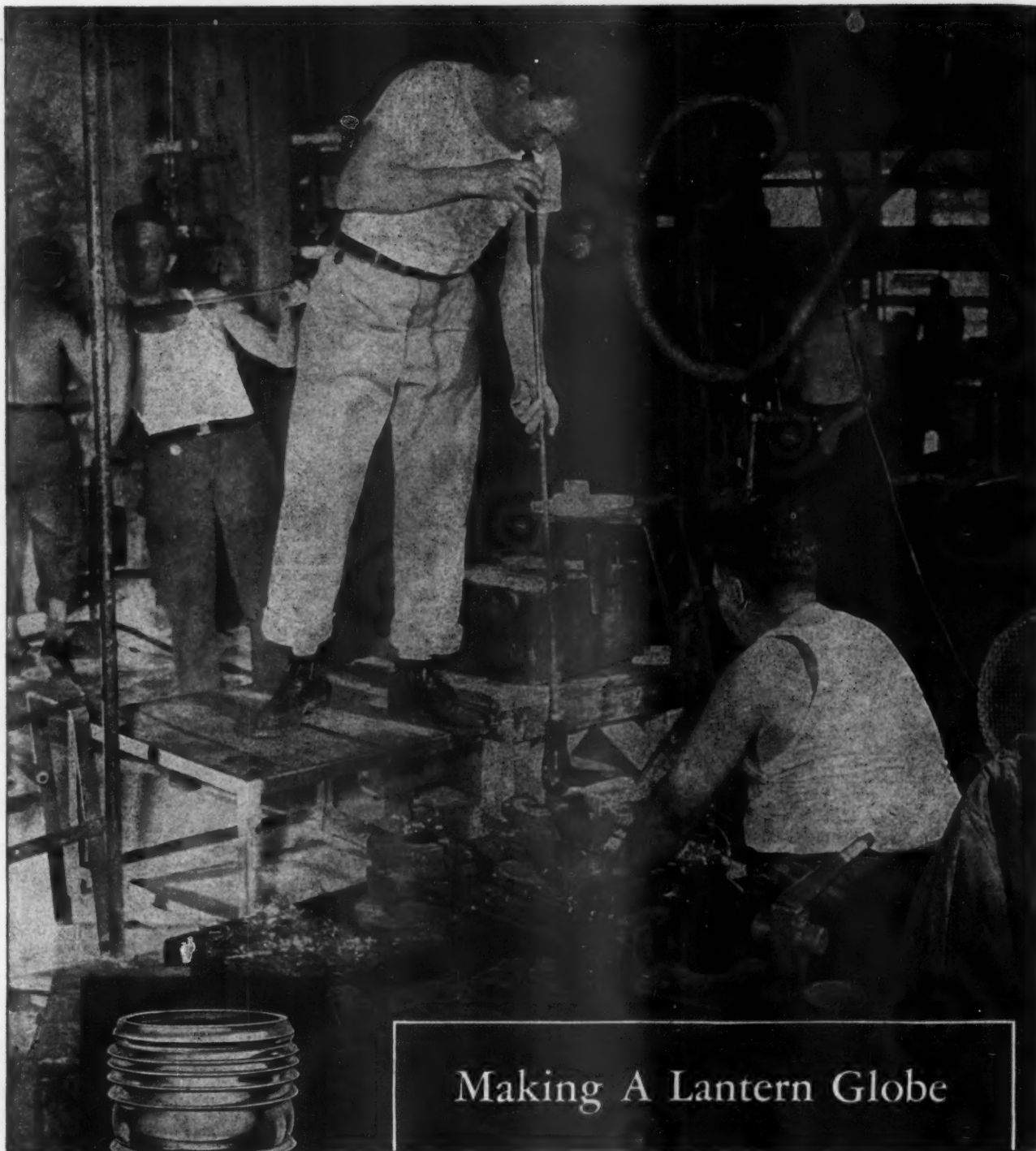
with the YM OIL REFINER

MAIL THE COUPON FOR FURTHER DETAILS ➔

The Youngstown Miller Company
1020 Kidde Avenue
Belleville 9, New Jersey

Gentlemen:
Please send me further information about the YM Oil Refiner.

Name.....
Position.....
Company.....
Street Address.....
City and State.....



Making A Lantern Globe

Making a lantern globe looks easy when experts are on the job. Here, a smooth functioning team of four men, each thoroughly trained in his work, is transforming molten glass into lantern globes.

In the background are the "gatherers" who gather the molten glass from the furnace in the required quantity. The "gaffer," or man handling the blow-iron, forms the gob, places it in the mold and blows the glass. The moldholder is kept busy opening and closing the molds at the right time and weighing each globe

on the scales to assure uniformity.

These operations require skill based on years of experience. In addition, these men are backed by Corning's vast knowledge of glass technology and engineering which have pioneered important advancements in signal glassware. Today the Corning trade-mark on signal glassware is recognized as a symbol of quality and dependability.

*Safety depends on Signal Glassware—
Railroads depend on Corning.*
Corning Glass Works, Corning, N. Y.

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GREAT POWERS *of* INDUSTRY

COMPRESSED-AIR POWER



Manpower is the prime form of power. Man produces with his own hands, but he uses other powers to aid him in his labors.

One of the first instances of Air Power aiding Manpower was undoubtedly the pressure of air upon the sail of a primitive canoe.

Centuries later, but still over two thousand years ago, air-minded men compressed the air in vessels made of animal skins. This first man-made Air Power was used for operating temple doors, giving voice to stone gods, or for primitive smelting.

Today, hundreds of vital processes depend upon air mechanically compressed to pressures from a few ounces to thousands of pounds per square inch. Compressed air and an endless variety of air-operated tools and machinery are performing unlimited operations in modern industry. The following pages include data showing

AIR

DIESEL

ELECTRIC

GAS

GASOLINE

HYDRAULIC

STEAM

This book is not for sale . . . as far as we know, it does not exist. If it did, such a book would point out the types of work that can be accomplished by *several* forms of motive power used by industry . . . the problems that can be solved *better by one* than by any other . . . the things that can be done by *only one* of them . . . and the still other jobs that require *combinations* of several powers.

In the absence of such a book, we must all depend upon experienced engineers and manufacturers to advise us of the very latest practices in their particular fields.

So if you are not thoroughly familiar with *Compressed-Air Power* . . . what it is doing for others, and what it can do for you . . . get in touch with an Ingersoll-Rand Engineer. He knows Air Power and its applications.

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KIDDE FLAME DETECTORS keep constant watch on the engine — particularly a rear-mounted or under-floor one that the driver can't see. These Detectors won't mistake a high temperature for a fire — but they'll never fail to spot a blaze!



A RED LIGHT FLASHES on the Indicator Panel — located on the dash board — giving *instant* warning to the driver that the engine's on fire. No false alarms, no costly time delay in detecting the start of the blaze.



PULL OF A HANDLE sends the extinguishing system into action. Carbon dioxide — one of the fastest fire-fighting agents known — is immediately discharged, by its own energy, from cylinder in which it is stored.



SPECIALLY DESIGNED NOZZLES direct the carbon dioxide into the engine compartment. Quickly penetrating into every corner, it smothers the flames in a matter of seconds. Dry and inert; the gas cannot damage the engine — no moisture, no chemical attack.

This fast, sure fire-fighting method has been tested and proved in thousands of tanks. Now it has been adapted for easy installation in old or new buses. ¶ Write for bulletin giving full details.



The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

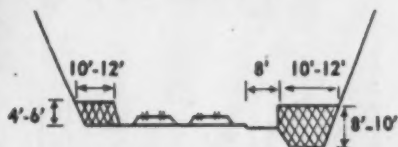


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SOUTHERN solves drainage problems with small off-track **TOURNAPULLS**



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(CROSSHATCH SHOWS DIRT TO BE REMOVED)

COMPLETED CROSS SECTION



Tournapulls push load each other, dig both ways, dump at both ends of 6,000-yd. cut. Tiltadozer used in push-loading, also comes in handy for dozing fills, opening ditches, etc.

A fleet of small, fast-traveling Tournapulls are being used by the Southern Railroad to solve drainage problems. This 2100-foot cut on the main line between Washington, D.C. and Greenville, S.C., is typical. Water stood in this cut after heavy rains; Tournapulls clean out eroded material, smooth and slope right-of-way, dig drainage ditches.

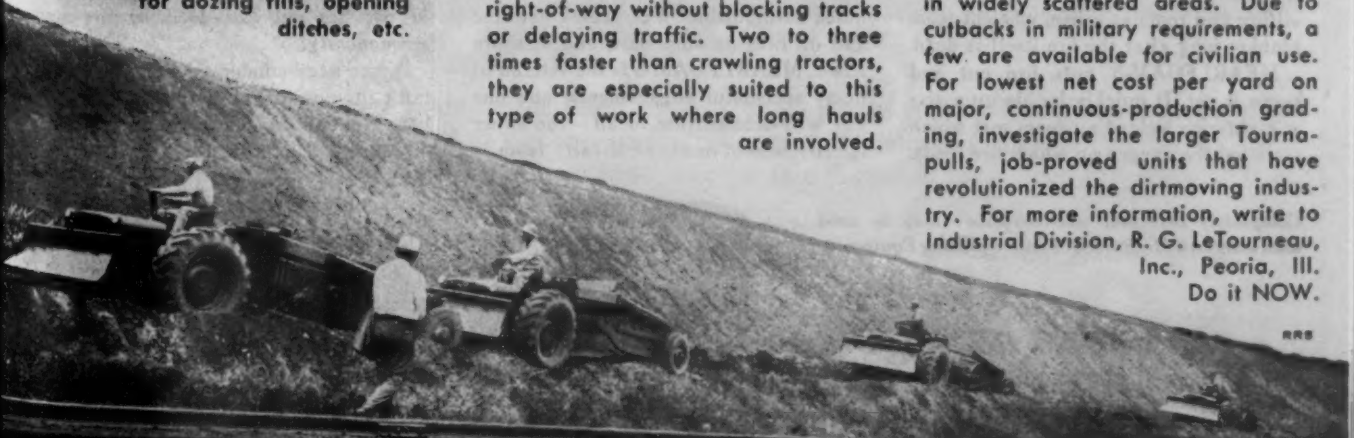
Tournapulls are one-man operated, each independent of delays to other units. They handle the complete excavation operation including load, haul and spread; they work and move job-to-job under their own power, on the highway or down the right-of-way without blocking tracks or delaying traffic. Two to three times faster than crawling tractors, they are especially suited to this type of work where long hauls are involved.

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These small Tournapulls can save you a lot of time and money on scattered small yardage dirtmoving jobs in the maintenance department. They work alone or in pairs with no need for extra laborers or manpower . . . can be used to quickly take care of needed drainage, erosion control, and other odd-job dirtmoving which is now a headache for your short-handed section crews.

Southern's small, light Tournapulls were developed for the Aviation Engineers to handle utility jobs fast in widely scattered areas. Due to cutbacks in military requirements, a few are available for civilian use. For lowest net cost per yard on major, continuous-production grading, investigate the larger Tournapulls, job-proved units that have revolutionized the dirtmoving industry. For more information, write to Industrial Division, R. G. LeTourneau, Inc., Peoria, Ill. Do it NOW.

RRR



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A FABLE MEETS A FACT



FOR MANY CENTURIES the legend of the Salamander was accepted as truth. The ancients really believed that this newt or lizard actually dwelt in the heart of the flames—could endure fire. This was just another of the many things people have believed . . . which ain't so.

MEARLFOAM-5, on the other hand, does live and thrive in fire. This war-born, blended, multi-protein, mechanical (air) foam strangles the hottest gasoline or oil fire and remains a live, efficient foam blanket long after the fire itself is dead.

MEARLFOAM-5 puts fire out and keeps it out. It quickly builds up a six- or eight-inch welded air-foam mat which seals out the oxygen on which fire feeds.

It adheres to solid surfaces and will pile up an inch or two of fire-smothering dense foam on even perpendicular surfaces. And—any break or rupture in a blanket of MEARLFOAM-5 heals automatically because full mobility and fire-resistance are retained even after aging.

The many unique and dependable properties of MEARLFOAM-5 are the sole reasons the U. S. Navy uses it extensively for preparedness . . . and for the quick extinguishment of raging gasoline and oil fires on shipboard and at shore bases. MEARLFOAM-5 is the veteran of many successful engagements, and one day will demonstrate to all—the super effectiveness of mechanical (air) foam as

the most successful, modern method for combatting gasoline and oil fires. MEARLFOAM-5, after putting fire out—*keeps it out*...totally eliminating the flash-back hazard which in the past has taken such a terrible toll of lives and property.

MEARLFOAM-5 is a good-mixer—with any type of water. It works at maximum efficiency in any climate or atmospheric condition. So that—when split-seconds count—you can rely on MEARLFOAM-5 to put fire out fast—to keep fire out *permanently!*

A one-page condensed data sheet detailing the unique properties of this war-born fire-fighting foam is now available on request. Please ask for it.

Completely safe and non-corrosive—may be used with standard Mechanical Foam-Forming Equipment

**FOAM ON
FIRE OUT...
Stays OUT!**

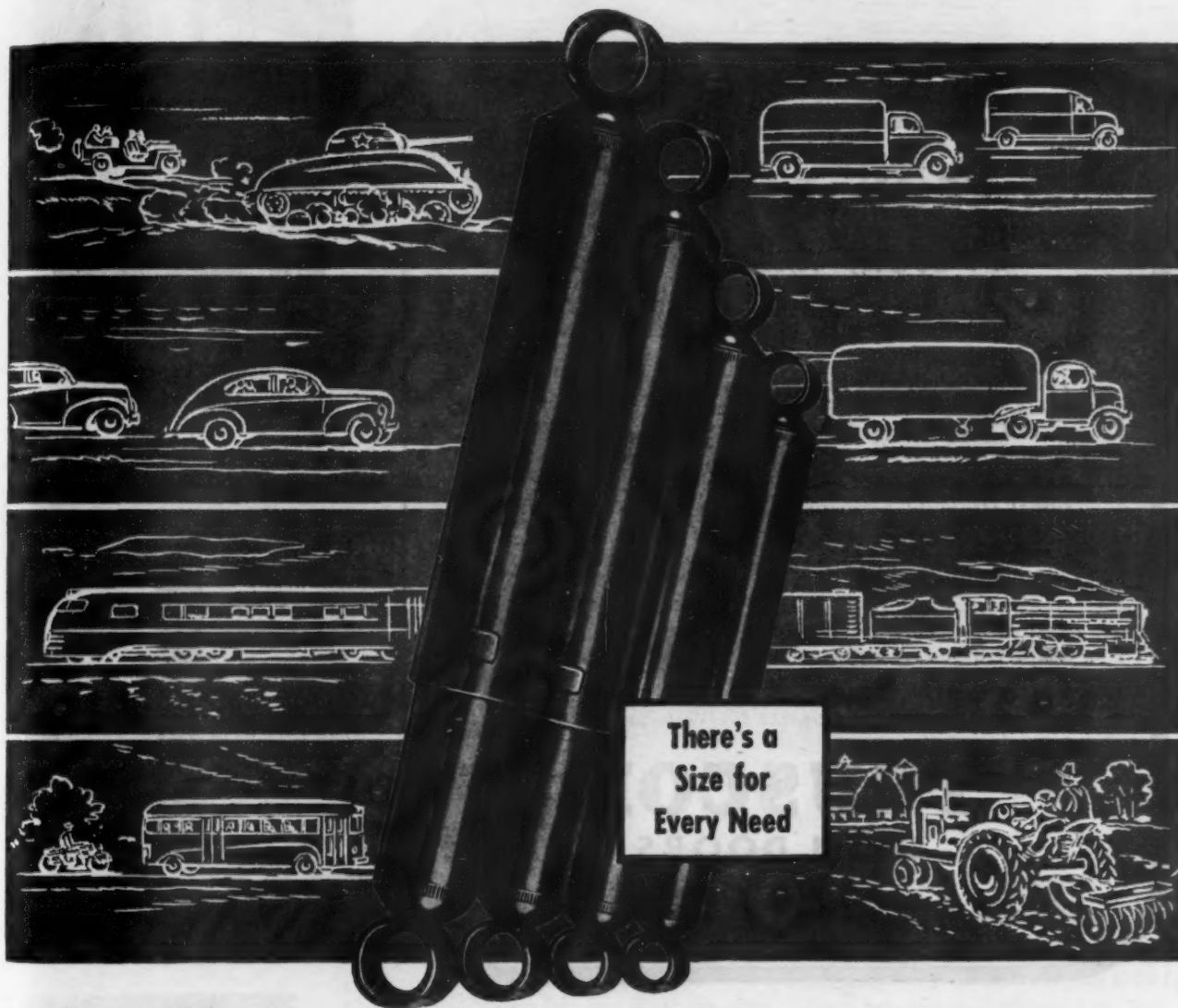


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IN PEACE & WAR • ON HIGHWAY & RAILWAY • ON BATTLEFIELD & FARM

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Truscon Vertical-Lift Steel Doors



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Adequate stiffness without excessive weight; great torsional strength; permanent rigidity and freedom from sagging; snug fit; easy-operating mechanism for hand or mechanical power; weathertightness; long life in heavy duty—these are some of the Truscon Steel Door advantages that assure economy and satisfaction to you.

Ask our experienced engineer to help you efficiently adapt Truscon Steel Doors to any of your needs.

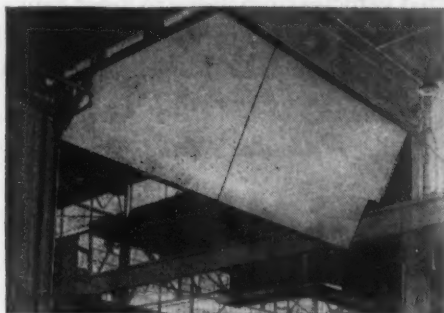
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Truscon Turn-Over Steel Doors

Zinc S-T-R-E-T-C-H-E-S with the steel...

... gives you unbroken protection



In this severe test ARMCO ZINCGRIP is folded and refolded. Regular galvanized steel would flake badly at the corner to which the pencil points, but the coating on ZINCGRIP remains unbroken.

This is the famous "Handkerchief Test" on ARMCO ZINCGRIP.

It clearly shows how the special zinc coating *stretches* with the steel during severe fabricating operations. This means *unbroken zinc protection* for your passenger and freight car roofs and other parts.

Regular galvanized steel, as satisfactory as it is for many uses, won't take the severe draws or double-lock seaming required for many parts. The zinc coating flakes off, and complete protection is lost. Naturally the equipment doesn't stand up as long in service, costs money to replace.

THIS IS THE ANSWER

ARMCO ZINCGRIP solves the problem. Its specially-applied zinc coating clings tightly to drawn corners as well as the flat parts. No bare spots are left for corrosion to feed on.

If your sheet steel car parts need zinc protection, we'd like to tell you more about ARMCO ZINCGRIP.* Just write The American Rolling Mill Company, 1671 Curtis Street, Middletown, Ohio, for our free booklet.

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OF WAY AND SIGNAL DEPARTMENTS

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PETTIBONE MULLIKEN design (1) Reduces the need for full rigid clamping. (2) Supplies constant bracing to the rail whether bolts are tight or loose or whether no bolts are used. (3) Controlled flexibility—not attempting to stop the wave or up-and-down mo-

tion of the rail, yet restricting tipping or side-thrust—no wide gage—close signal adjustments. (4) Provides larger, better fitting wearing areas of forged, corrosion resistant steel, thus reducing the frequency of adjustment. (5) Makes infrequent adjustment easy.



Two Bolt Brace

Bolts will be initially tighter and will stay tight longer than on other bolted braces. Maintains gage and is an effective brace to the rail even if bolts work loose. Square-head acorn nuts spaced for 180° turn with ordinary track wrench. 11 pieces—easy to install, adjust or remove.

One Bolt Brace

Bolt will be initially tighter than on other braces. Single bolt acts as a pivot under rocking motion caused by change of wheel weight from receiving to leaving edges of plate—tends to remain tight longer. Maintains gage and is an effective brace to rail even if bolt works loose. Square-head acorn nut permits 180° turn with ordinary track wrench. 8 pieces—easy to install, adjust or remove.

Boltless Brace

No bolts to corrode, wear or tighten. Controlled flexibility—up and down or wave motion of rail is not limited, yet restricts its tipping or side-thrust. Maintains gage, and permits accurate signal adjustments. Simplicity assures proper maintenance. Design permits single or double spiking on outside of stock rail if desired. 4 pieces—wedge, brace, key and plate.

Write for Bulletin No. 1101

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CUT TRAVEL FATIGUE

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FOAMEX*

Covered with

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Velon*

Foamex changes sitting to blissful floating. It puts a cloud of buoyancy between passenger and fatigue—millions of tiny, shock-swallowing air-and-latex bubbles that give seating more deep-cushioned ease than was ever dreamed possible with oldstyle upholstery springs and stuffing.

Muscles stay relaxed (and passengers content-ed) while these air-soft bubbles *breathe* to keep the whole seat (and occupant) air-cooled, air-conditioned. And each friendly Foamex bubble cushion is irrevocably attached to its neighbor, which means Foamex doesn't even sag or lump—a fact proved by years of use on railroad, highroad and sky-road. Now electronic processing gives Foamex even longer wear.

Velon's delightful color versatility pleases passengers into a pleasanter frame of mind. Not only upholstery fabric but curtains, shades and wall trim in smarter, brighter colors are practical and wearproof with Velon.

Velon slashes upkeep drastically. Its non-porous threads shun dirt, grease, grit. A mere wipe of a cloth dampened with water or cleaning fluid instantly restores Velon's beauty. It can't snag, scuff or conduct heat. Years of wartime abuse in transportation seating prove Velon won't bag out of shape—yet it will "give" just enough over deep Foamex cushioning.

Foamex and Velon were needed to rest the wounded, to protect America's jungle fighters. But now this wonder seating team is available for new restfulness, new beauty, new economy. Specify them in new equipment, today.

Write Firestone, Akron, for complete details.

TRADE MARK

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Firestone



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is good for many things . . .
chronometers and easy chairs
and filter blocks and wings . . .*

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If you would make your product - lighter . . . quieter . . . smoother running . . . more durable . . . less costly in operation . . . more comfortable . . . cheaper and safer to ship - it will pay you to investigate Texlock as well as its related products. Texlock is available in sheets, pads and die cut shapes. Write for samples and information today. Sponge Rubber Products Co., 121 Derby Place, Shelton, Conn. Plants in Derby and Shelton, Conn. Sales Offices: New York, Chicago, Detroit, Washington.

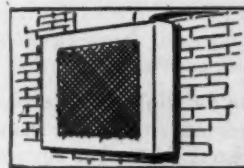
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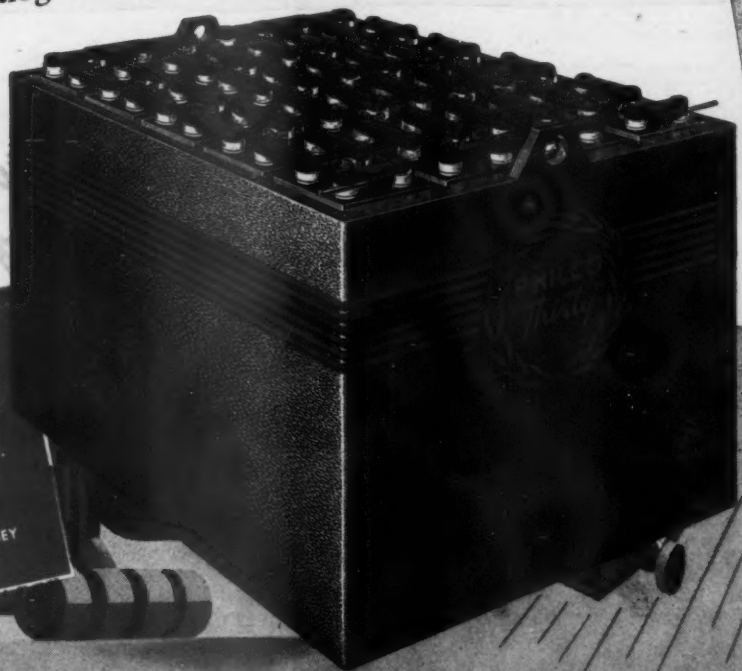
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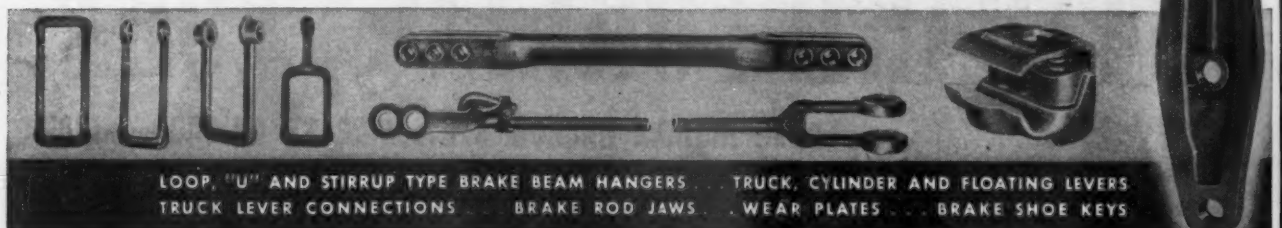
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With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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with a tractive force of 59,740 lb., designed for grades of 7 to
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interests in rate disputes. This is just one aspect of a discussion
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a NEW single-station Code Control System

The efficiency of "Union" Time Code Control in C.T.C. applications gave rise to a demand for a system which would provide code control and indication features for a number of functions, but which would not include station selection.

"Union" met this demand by the development of the "510" system.

This system is extremely flexible in application. It is designed so that standardized units of code equipment can be combined to provide the functional capacity required for almost any single-station remote control application. Additional single-station systems are employed when it is desired to control from one point more than one area or to divide an extensive area into sections.

Coded Carrier Control may be used in connection with the "510" system to operate two or more single-station layouts over the same pair of wires.

To change the position of any switch or the condition of any signal, the corresponding lever on the control machine is turned and the code starting button is pushed. This initiates a code which reflects the position of every lever on the machine. Any significant change in field conditions initiates an indication code which actuates lights above switch and signal levers and on the track diagram.

Safety circuits localized and interlocked in the field prevent operation of either switches or signals unless the move called for can be made safely.

Our nearest district office will be glad to supply full information concerning "Union" Time Code Control systems and their applications.

UNION SWITCH & SIGNAL CO.

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PENNSYLVANIA

NEW YORK

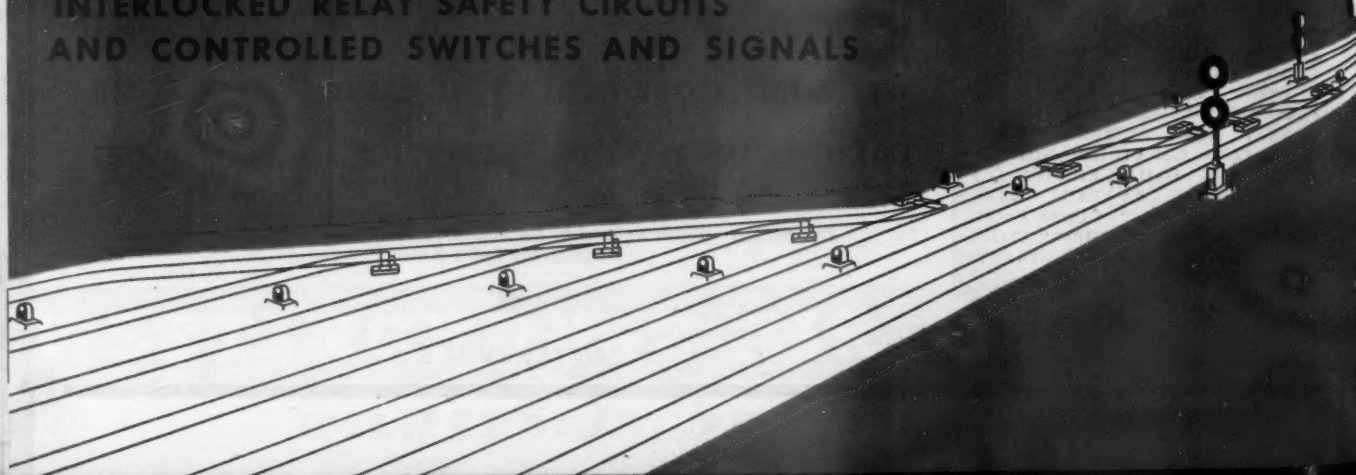
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The Week at a Glance

ST. LAWRENCE REVIVED: The St. Lawrence ditch project has come up again in Congress, and (as the account in this issue's news pages indicates) its proponents seem to have a carefully planned campaign worked out to put it over. As usual, more is being said about how many jobs its construction will make—while it is going on—than about how many jobs in coal mines and on railroads, among other places, may be lost for keeps when it is completed. And President Truman has come through with a vigorous message supporting the undertaking, in which he seems to imply that we stand to lose the next war if it isn't carried out. That is a fair conclusion, at any rate, from the emphasis put on the contribution of T. V. A. and the Columbia river developments to winning the war just ended. Nothing was said about how much the highly developed railroad system in the East (which the St. Lawrence project isn't designed to help, to say the least) had to do with speeding that victory, but the railroads weren't built at public expense, and their existence hasn't as yet been attributed to the forethought of Mr. Truman's predecessor, so the omission isn't too surprising.

HILL CLIMBER: Some of the unusual characteristics of the Western Maryland's new Shay geared locomotive are described this week in an illustrated article. Although it is designed for regular operation on seven per cent grades, with occasional stretches up to 10 per cent, and a maximum curvature of 22 deg., this engine incorporates many conventional features. It can handle 5,560 tons on level track at 10 m. p. h., or 156 tons on a seven per cent grade.

PROFIT-SHARING PROPOSAL: While firms in various industries have experimented over the years with plans to share profits with employees, and so secure greater cooperation from them in advancing the interests of the company they work for, and have, in some instances at least, achieved some success with them, the railroads have not shown much enthusiasm for this sort of thing. Now, however, the management of the Jersey Central has put such a proposition before its employees, some of the reasons for which are set forth in an article on page 564.

BASIS FOR HIGHER WAGES: If railroad employees, and people generally, want to enjoy the steady increase in real wages and real incomes (as measured not in dollars of "take home" pay but in the goods those dollars will buy) to which the progressive improvement of technological processes entitles them, they can secure that increase in a much more efficient and equitable and enduring way than by the plant-by-plant and industry-by-industry procedure of dickering for and forcibly procuring higher monetary wages. The source of all increases in real income is in increased output per unit of work, made possible, by and large, by improved technology. As an editorial in this issue demonstrates, a better

way to translate increases in production per unit of labor into increases in real income is by reductions in the prices of goods, in the "cost of living." Every reduction in the price of goods or services means more real income for all the consumers of those goods or services, because they will be able either to spend more money for other goods or services or to acquire more of that which has been reduced in price. From these greater demands will come more employment, faster "turnover," and all the other conditions that go to make up "prosperity" and stimulate still more technological improvements. And it's equally true, too, that monetary wage increases obtained by coercion—because their consequences are, generally speaking, the reverse of those resulting from reductions in prices—result almost invariably in *decreasing* real wages.

A CASH PROPOSITION: George M. Harrison, president of the clerks' brotherhood, argues very effectively, in an article herein, for the provision by the railroads of better places for their employees to work and of better stations for the travelers who use their trains. If such improvements hadn't been put off so long, he contends, the expense of catching up now wouldn't be so staggering. But recognition of the need isn't all that is essential to get the work done. As the leading editorial this week points out, the railroads' ability to make expenditures depends on the size of their net operating income. What are Mr. Harrison and the leaders of the other brotherhoods doing to make this larger? Their most recent contribution takes the form of demands for wage increases that would wipe out net operating income entirely, leaving nothing at all to pay for new lights and plumbing, not to mention overstuffed chairs and circulating ice water. Surely this relationship of cause and effect hasn't escaped the usually alert and astute Mr. Harrison.

REPORT FROM BRITAIN: Some idea of the "incidents" that British railways had to contend with throughout the war is conveyed in the restrained description of damage suffered and expedients employed to keep the trains running which the chief engineer of the London, Midland & Scottish has contributed to this issue. Prolonged raids by fleets of bomber planes were succeeded by flying-bomb and rocket attacks as the last phases of the conflict were experienced, and the ingenuity of the engineers was taxed to provide protection at key points and restore damaged facilities as speedily as possible.

LAND-GRANT LAST DITCH: This week the senator from Mississippi got his name in the headlines again with a threat to filibuster for 30 days against the bill, already passed by the House, to repeal the remaining land-grant rate concessions enjoyed by the government. As this issue went to press the filibuster was under way. Opening maneuvers are reported in the news pages this week.

PAYING FOR BETTERMENTS:

The Santa Fe's president, in a recent speech abstracted herein, has put it plainly to the shippers that they have a stake in the outcome of impending legislative and regulatory developments that well may have very harmful or very helpful results for the railroads. Without putting the government in the railroad business, and without putting the railroad industry in a position of enervating dependence on government subsidy, something might be done, he suggests, to overcome the competitive advantages that other forms of transportation enjoy by benefiting from tax-supported government expenditures, if such expenditures are going to go on indefinitely. This compensating provision would take the form of tax credits to the railroads to offset a part of the cost of their permanent roadway improvements in somewhat the same manner that the federal government "matches" local expenditures for highways and, under some circumstances, airports. If the public is not prepared to insist that all forms of transportation do without federal aid, then it is time, the speaker thinks, to give some thought to alternative arrangements in which the railroads are included.

HOW TO ATTRACT CAPITAL: The railroads have plenty of ideas for ways to give their customers better service, A. A. R. President Pelley declares, but they also have a very real appreciation of the difficulty of getting the capital to make the realization of those ideas possible. As reported in the news pages, he suggested some of the technological improvements in rail, in cars, in motive power, and in numerous other fields, that the industry has developed and wants to utilize to the fullest. But there is no escaping the fact that the capital that will have to be provided to carry out these plans is not going to be forthcoming from private investors in sufficient amounts unless all competing forms of transportation get substantially equal treatment from the government. Given such treatment, traffic will go where it gets the best service at the lowest cost, and under those conditions private capital will continue to find railroad securities attractive.

RADIO PIONEER: The Rock Island's plan to employ on its 160-mile, double-track main line from Chicago to Rock Island ultra-high frequency radio telephone apparatus—employing a new war-time development known as the Klystron tube and an equally new type of antenna—is briefly reported herein. Locomotives and cabooses assigned to through freight service are to be equipped first, with other trains and wayside installations scheduled for later attention. Whereas the channels now assigned by the Federal Communications Commission to the railroads for head-to-rear of train service are in the 152-162 megacycle band, the Rock Island's program contemplates using 2,660 megacycles, and the road is said to have assurances that it will be granted a permanent operating license at this frequency.

IT'S A GREAT NEW DAY FOR RAILROADING

WHAT A RECORD!

Out of 486 possible operating days
Baltimore & Ohio's No. 63,
a General Motors Diesel locomotive,
powered these trains:

The Capitol Limited

Washington-Chicago—443 days

The Ambassador

Washington-Detroit—10 days

Other Runs

Washington-Chicago—8 days

Washington-St. Louis—6 days

Washington-Jersey City—2 days

Washington and Chicago—5 days

Out of service—12 days

Total miles run during this period—362,488

Average monthly miles—22,665

ADD SECURITY TO VICTORY
BUY MORE VICTORY BONDS

G

M
LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION

WILLOW GRANGE, ILL.

RAILWAY AGE

Interdependent Interests of Railways and Their Employees

George M. Harrison, president of the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, recently has written three articles on "Railroad Reconversion Problem." *Railway Age* published the first of these articles in its issue of July 7, summarized the second in its issue of September 1, and publishes the third in this issue.

With most of what Mr. Harrison has said this paper is in agreement. But we hope he will write a fourth article telling how he believes the railways can and should be enabled to finance the large program of rehabilitating and improving their properties which he shows should, in the interest of themselves, their employees and the public, be carried out.

Income Determines Outgo

The railways have passed through three distinct periods since the short depression that followed soon after World War I. These periods have been, (1) 1923-1929, inclusive; (2) 1930-1940, inclusive; and (3) 1941-1945, inclusive. In the seven years of period (1) they were able to and did carry out a large program of rehabilitation and improvements. Average annual figures for Classes I, II and III railways in these years include the following: Net operating income, \$1,121 million; increase in investment, \$699 million; expenditures for all maintenance, \$2,121 million; purchases of equipment and materials, \$1,598 million; number of employees, 1,781,000; total wages, \$2,949 million. In the eleven depression years of period (2) net operating income averaged only \$556 million, a decline of one-half; and there was no increase in investment. Other annual averages were: Expenditures for all maintenance, \$1,224 million, a decline of 42.3 per cent; purchases of equipment and materials, \$691 million, a decline of 57 per cent; number of employees, 1,102,000, a decline of 38 per cent; total wages, \$1,856 million, a decline of 37 per cent.

Complete statistics for Classes I, II and III railways are available for only the first three years of period (3), and, because of war-time restrictions on equipment, materials and man-power, they are not strictly comparable with statistics for periods (1) and (2). However, annual averages for these three years (1941-1943, inclusive) are: Net operating income, \$1,327 million; increase in investment, \$166 million; expenditures for

all maintenance, \$2,074 million; purchases of equipment and materials, \$1,203 million; number of employees, 1,275,000; total wages, \$2,961 million. Some comparable statistics for Class I railways in 1944 are: Net operating income, \$1,106 million; expenditures for all maintenance, \$2,851 million; number of employees, 1,457,000; total wages, \$3,968 million.

Only a glance at these figures is required to discern that *over periods of years they have all increased and decreased together*. And the reason for this should be plain. Net operating income is the amount of earnings the railways have left after paying their operating expenses, rentals and taxes, and is, therefore, the measure of their prosperity. Net operating income determines how much total investment they can make—i. e., first, how much investment they can make from earnings, and, second, how much capital they can raise for investment by the sale of securities. Net operating income also *regulates* expenditures for maintenance. When net operating income begins to decline, expenditures for maintenance are reduced to curtail the decline of net. When it increases, maintenance expenditures are increased. And, because of its effects on both investment and maintenance, net operating income regulates railway employment and purchases. Normally, most employees are employed, and virtually all equipment and materials are bought, to expand, improve or maintain railway physical properties. Hence, every increase or decline of investment or maintenance or both causes an increase or decline both in employment and in purchases of equipment and materials.

Some Questions for Mr. Harrison

The foregoing record of *actual experience* in periods of prosperity, of depression and even of war seems to show that the interests of the railways and their employees are interdependent. Does it not show that it is necessary for the railways to earn net operating income exceeding \$1,000 million a year in order to assure adequate expansion, improvement and maintenance of their properties? Does not the way it shows that employment and the total pay-roll have fluctuated with net operating income also show that it is necessary to the welfare of their employees for the railways to earn net operating income exceeding \$1,000 million a year? If it does show these things, then what should and can

be done to make reasonably certain that the railways will in future earn this much net operating income?

We submit these questions to Mr. Harrison, and hope he will give his answers to them. In spite of the largest gross earnings in history, the railways' net operating income declined to \$1,106 million in 1944 and will be substantially less in 1945. We estimate that pending and contemplated demands of the labor unions would, if there were no reduction of employees, increase annual railway operating expenses \$1,759 million and pay-roll taxes \$110 million—total, \$1,869 million. If labor leaders believe this estimate is too large, what is their estimate? And how do Mr. Harrison and other labor leaders believe the railways could make even a substantially smaller increase than our estimate in their expenses and pay-roll taxes and earn (assuming it is needed) more than \$1,000 million net operating income annually?

Tramp, Tramp, Tramp—

The marching feet of soldiers continue to pound station platforms on the way to troop trains in undiminishing numbers. The end of the Pacific war has had little or no effect on troop movement activities in general. The War Department forecasts that there will be no great reduction in the number of troops going to overseas replacement depots on the Pacific Coast. There has been some cancellation of troop train movements from camp to camp within the United States, of course, but the railways' job is virtually at its peak. More than a million troops were moved in groups during August. The diversion to the East Coast of ships from Europe originally destined to the Pacific has presented eastern carriers with many difficult problems in supplying necessary equipment for many thousands more men than were originally expected. However, they continue to break records. For example, 20,000 troops were recently handled from Camp Kilmer, N. J., between 8 p. m. and 4:39 the following morning. This number required the use of 31 trains, including 331 Pullmans, 100 coaches and 41 kitchen cars.

The Army's announced plan of increasing the rather restricted number of camps through which returned soldiers can be processed and discharged will be of assistance to the railways serving such camps at present. With the small number of camps previously existing troop movements were funneled into such camps over one or two railways, thus overburdening such railways and certain sections of their lines. With more than 100 such camps scattered throughout the country the burden will be divided among more railways.

The railways were warned immediately after V-E day that they would be called upon to handle unusually heavy troop movements, but the estimates given them were far too small. In relatively few instances this resulted in discomfort to the returned soldiers, which was, of course, regrettable. However, once the railways had a few weeks to recover from the unexpected avalanche and plan their operations, a record has been made in handling troops that appears to have silenced the critics and gives the railways the right to congratulate themselves instead of adopting an apologetic attitude.

What Economics Teaches About Wage Adjustments

There is seldom justification for general increases in *monetary* wage levels, and seldom any absence of justification for progressive increases in *real* wages; and applying coercion in the effort to force monetary wages upward is usually an effective means for decreasing rather than increasing real wages—that is, the goods and services which money received in wages will bring. This is a fundamental and vital economic doctrine, not too abstruse to be comprehensible to people of ordinary curiosity and intelligence, but one which is, nevertheless, probably not understood by one person in a hundred—and hardly any less adequately by employers than by employees.

The source of all increase in per capita real income (i. e., the sum of food, shelter, clothing and luxuries which individuals receive in exchange for their monetary incomes) is increased production per unit of labor. Higher production per hour, per day, or per week is achieved either by improved methods of operation or by an improvement in the circumstances in which an industry operates or by an addition to or improvement in the tools employed to do a job (i. e., by an increase in "capital"). Increased output per unit of work, brought about by better methods and tools, is often inaccurately attributed to "increased efficiency of labor," but the efficiency of the individual employee usually has little if anything to do with the improvement, as the following example from railroad experience will demonstrate.

From 1923 to 1937 the ton-miles of freight moved per railroad employee increased 42 per cent and passenger-miles moved per employee rose only 6 per cent. Net tonnage per average freight train—manned as a rule by a crew of five men—increased 16 per cent from 1923 to 1937; and the average load (i. e., revenue passengers) per passenger train declined over the same period by 12 per cent.

If the increased output of ton-miles per railroad employee were accurately ascribable to "increased efficiency of labor," it would have to be concluded that labor engaged in handling freight in the period prior to the war was much more industrious and capable than labor handling passenger traffic—an absurd conclusion, because to a large extent the same employees handled both classes of traffic. There is, in short, no evidence to sustain a contention that the skill and zeal of railway employees in 1937 was to any material degree different from that of such employees in 1923—but there is incontrovertible evidence to indicate that the 1937 employee had more and better tools to work with than did the 1923 employee; that traffic characteristics were materially different in the two years; and that operating methods underwent a progressive improvement throughout the entire period. Such changes, rather than a change in the ability and industry of individual employees, were the factors which led to the alteration in the output per employee.

Actually, it is the whole economic and industrial system—and not railroad management, "capital" or labor alone—which must be principally credited for improved

efficiency of the railroads in the production of ton-miles and their more modest improvement in the production of passenger-miles. Railroad management, "capital" and labor contributed to the outcome, but the contribution of the average individual in any of these three groups rarely consisted in doing more than his usual daily task. Certainly the train crews whose per-man output suddenly increases when new locomotives are acquired do no more, despite the increase in their output, to deserve a wage increase, for example, than a station agent or yard operator whose quantity of performance is exactly the same after the new engines are installed as before.

The point is that the benefits of increased output per individual resulting from technological and managerial progress should not be awarded exclusively to the employees who happen to be closely associated with these improvements, but should be shared by everybody. There are two methods for distributing these benefits throughout society. One is by granting a monetary wage increase to the employees immediately concerned—but, if the process stops there, some of these employees will probably lose their jobs, since increased efficiency will produce a given output with fewer employees. To avoid such unemployment, it is necessary to make commensurate increases in the wages and incomes of everybody, to match those of the employees immediately concerned with the improved methods—in order that consumers of all classes may have more funds with which to increase their purchases of the product.

Thus artificially boosting the monetary incomes of everybody in the country is a slow and cumbersome process—taking years to accomplish, necessitating the employment of countless negotiators and conciliators, and resulting in temporary maladjustments which decrease production and reduce the incomes of everybody. There is a much simpler way of passing on the benefits of improved processes—and that is to reduce the price of the article or service which is produced with less expenditure of labor, instead of offsetting the economy of the new process by increasing the monetary wages of the employees immediately concerned. With such price reduction, people in general are immediately able to purchase more of the product, everybody is better off, and there is no "technological unemployment." If the railroads, for example, should pass along to the public in lower rates the benefits of improved railroad efficiency—they would have a right to expect, in turn, that improved efficiency in manufacturing automobiles or clothing, or food products would also be passed along to railroad men in lower prices for such products.

By this process, railroad men and everybody else would enjoy

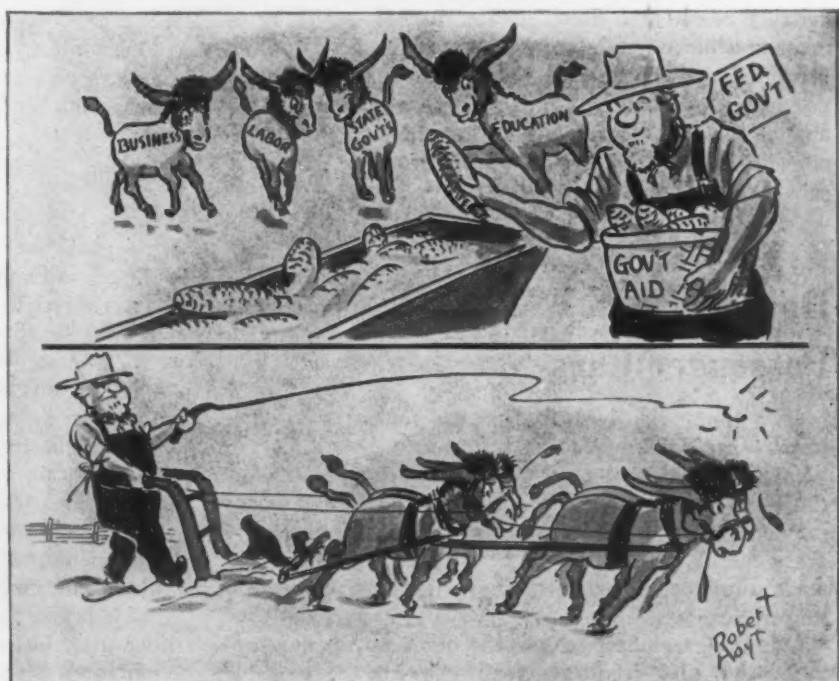
a steady increase in wages and incomes—real wages and real incomes as measured in actual goods—and without deductions to pay for the waste and friction which ensue when the effort is made to pass along the benefits of improved technology by means of increases in monetary incomes, which is the artificial and costly process which has been allowed to become dominant. Real wages and income can and should increase constantly—and they would do so if the natural and effortless processes of competitive free markets were allowed by politics to perform their function of reducing prices to reflect fully the improvements in industrial efficiency. Changes in the *general level* of monetary wages, upward or downward, are economically justifiable only to allow for changes in the purchasing power of the dollar; or to alter the proportion of total income received by labor as compared to that received by "capital," if a shortage or surplus in the supply of either "capital" or labor should indicate that the inducements offered to it are inadequate or inordinately generous.

Work Equipment—

"We Ain't Seen Anything Yet"

In the peace-time era ahead, which will call for faster, more attractive and more convenient rail transportation to meet competition, many of the problems facing the railways will be radically different from those of recent war-time years. To keep pace with the type of train service that will be demanded, engineering and maintenance officers will be called upon to make improvements

Eating the Farmer's Corn Is More Fun Than Working Out the Favor in Harness



in many elements of the fixed properties, especially the tracks, and to achieve a higher standard of maintenance generally, with the greatest possible economy. In this, one of their most effective aids will be the more general use of power tools and machines.

Only the shortage of materials for the construction of work equipment and, in some cases, the inability of manufacturers to produce sufficient units for both war and industrial requirements, limited the procurement of new work equipment by many roads during the war years. If these restrictions had not prevailed, the shortage of man-power that existed so generally would have been prevented to a much greater extent by an expanded use of work equipment in both railway construction and maintenance work.

Short of both equipment and man-power, engineering and maintenance officers were presented with many difficult problems, and many of them became aware, as never before, of the value of adequate and suitable equipment for carrying out their work. This awareness, fortunately, will be carried over as these men turn to the solution of their post-war problems.

In the period ahead, costs will be scrutinized carefully and practices which prevailed during the war—"to get the job done, regardless of cost"—will no longer be permitted. Maximum results with the minimum outlay will be required. Here work equipment will enter the picture in a large way. First, by reducing the cost of doing work, it will help to justify many new projects that could not be undertaken otherwise. In addition, for the same and other reasons, it can be expected to play a larger role in many routine maintenance tasks. Every engineering and maintenance officer will welcome new machines and tools that will enable him to do either a better job or to do as good a job more economically.

Reflecting this viewpoint, the engineer maintenance of way of one large road recently expressed the opinion that the post-war need for better maintenance of the tracks and structures, with its higher costs, would inevitably result in a much greater use of work equipment to achieve maximum economy. In fact, this officer predicted that in the post-war era the increase in the use of such equipment will be far larger than that in any of the years before or during the war, and concluded his remarks by stating facetiously, "we ain't seen anything yet."

Dolling Up Passenger Cars

In a comprehensive paper on the general subject of railway car equipment of the future, presented at the September 18 meeting of the Car Department Association of St. Louis, K. H. Carpenter, superintendent car department, Delaware, Lackawanna & Western, and president of the Eastern Car Foreman's Association, made a number of pertinent suggestions regarding passenger cars.

One thing emphasized was the necessity for developing design and decorative features with a reasonable

regard for maintenance, which not only is costly in some modern cars but entails excessive out-of-service time for cleaning and renovating, with attendant decreased availability for service. In this connection, one point not specifically mentioned by Mr. Carpenter but implied in his remarks is the need for special track facilities at coach yards, with full mechanical equipment for making quick wheel or truck changes, other running repairs, mechanical washing, and, in fact, all servicing operations necessary to turning modern passenger trains and getting them back in service with the least possible delay.

Another point stressed was the need for improved distribution of cool air in air-conditioned cars so as to avoid objectionable drafts coming down on the heads of passengers. The suggested means of overcoming this difficulty is to supply a certain percentage of cool air (and also hot air during the heating season) through side-wall air ducts and outlets. As a matter of fact, this construction has been tried in quite a number of passenger cars and is incorporated to a degree in the observation dome of the Burlington's Vista-Dome car. The precaution which must be observed is to avoid locating the outlets where they will be even nearer to passengers than the usual ceiling outlets and hence blow objectionable cold air directly on them.

Still another very practical suggestion is the avoidance of sharp corners wherever possible and the substitution of fillets to expedite cleaning around windows, lockers, partitions and seat supports which should be streamlined to eliminate projecting bolt heads and unnecessary cavities where dirt is bound to collect. Mr. Carpenter makes the somewhat unusual suggestion that, with exposed floor heater pipes eliminated, wall and floor corners rounded and streamline seats designed either to lift up or swing out, car floors can be kept cleaner at substantially less expense and vermin practically eliminated. He calls attention to the often inadequate water delivery systems in many coach yards, and contends that piping should be installed to assure a generous and convenient supply of cleaning water both inside and outside of cars.

One problem now engaging the thought of passenger car designers is how best to store hand luggage in transit and enable it to be unloaded and distributed to passengers with minimum manual labor and delay at terminal stations. This particular problem was not discussed at the St. Louis meeting, but the novel idea was advanced that possibly some type of swinging platform could be incorporated in the construction of baggage and express car sides at the door positions and arranged to swing inward for loading and swing out for unloading baggage and express. This would avoid a great deal of objectionable delay at station stops. It was also suggested that baggage, mail and express car lights be installed in such a way as to reflect enough light to the outside while stopped at stations, so that station and mail employees can see to read addresses on packages, boxes, mail pouches, etc.

Admittedly, some of the suggestions advanced in the paper mentioned may be more or less impractical and will possibly never be adopted, but they are still worth consideration, for, in railway car building as in most other arts, history shows that today's impossibility is tomorrow's accomplishment.

Western Maryland Uses Shay Locomotive On Heavy Grades in Mining District

Lima-built unit weighing 324,000 lb. on drivers with a tractive force of 59,740 lb. designed for grades of 7 to 10 per cent and maximum curvature of 22 degrees

THE Western Maryland has recently placed in service a Class 150-3 Shay geared locomotive, having a tractive force of 59,740 lb. This new locomotive was designed and built by the Lima Locomotive Works and replaces other Lima-built Shay locomotives that have been in service for a number of years. It is used on a coal mining branch that connects with the Western Maryland near Chaffee, W. Va., between Cumberland, Md., and Elkins, W. Va., and is located on the headwaters of the Potomac river. The branch, originally a narrow gage, was built in 1904 by the Three Forks Coal and Coke Company and was converted into a standard gage in 1912. The Western Maryland acquired the branch line in 1929 and has operated it since that time.

The new Shay locomotive is designed for regular operation on seven per cent grades, with occasional stretches up to 10 per cent and a maximum curvature of 22 deg. The locomotive can handle trailing loads of 5,560 tons on level, tangent track at 10 m.p.h. and 156 tons on a 7 per cent grade at the same speed.

The Boiler

Conventional design and construction characterizes the boiler of this locomotive. It is a two-ring extended wagon top type, 28 ft. 3 in. long overall. The first of the two shell rings is 62 $\frac{3}{4}$ in. outside diameter at the front tube sheet and tapers to 80 in. at the second-ring circumferential seam. The barrel plates are $\frac{3}{4}$ in. thick and the longitudinal seams are the triple-riveted butt type with the barrel plate seam welded. The dome, 29 in. inside diameter, is located on the second ring.

For regular operation on seven per cent grades, the fireboxes are built with a 30-in. space between crown and roof. Double water glasses are used with the low reading 3 $\frac{1}{2}$ in. above the highest point of the crown and the high reading 21 in. above that point.

The firebox is built without a combustion chamber and is 114 in. long by 61 $\frac{1}{4}$ in. wide inside. The side and roof sheets, as well as the furnace crown and side sheets, are each one piece and the firebox seams are riveted. The furnace door sheet and back head are welded at the door ring.

Flannery flexible staybolts are used

in the firebox breaking zones and the outside row of throat sheet stays. Several rows of Flannery rigid hollow stays are used in the area above the mud ring and fire line. Three 3-in. arch tubes support the Security brick arch. Bituminous coal is hand fed through a Franklin No. 8A firedoor.

The boiler is equipped with two Sellers No. 10 $\frac{1}{2}$ injectors having a combined capacity of 7,900 gallons per hour, Type A superheaters, 2-in. Okadee

blow-off cocks, and two 3-in. Ashton safety valves.

The main steam pipe from the header to the engine cylinders is located outside the boiler on the right side and is of cast iron with ball joints. The throttle dry pipe is similarly equipped. The engine exhaust pipe is located next to the boiler on the right side and enters the smokebox on the bottom center line.

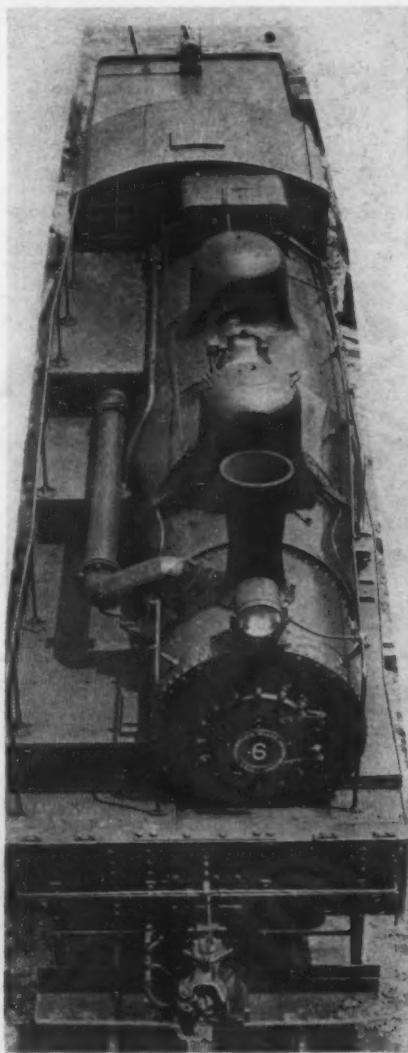
Frames and Machinery

The main locomotive frame is a girder type assembly fabricated, by riveting, of plate and angles. The top rail is a 6-in. by 8-in. by 1-in. angle and the bottom rail is built up of two 6-in. by 6-in. by 1-in. angles with a 1-in. cover plate. The vertical web is $\frac{3}{4}$ -in. plate on the right frame and $\frac{5}{8}$ in. on the left frame. The side frame rails are tied together by the bumper and foot plate crossties as well as cross members at the front truck bolster and at the front of the firebox. Brackets for runboards, air compressor and air reservoirs are bolted to the frame. The center line of the boiler is located 14 $\frac{3}{4}$ in. to the left of the center of the track rails. This compensates for the machinery location on the right side of the locomotive.

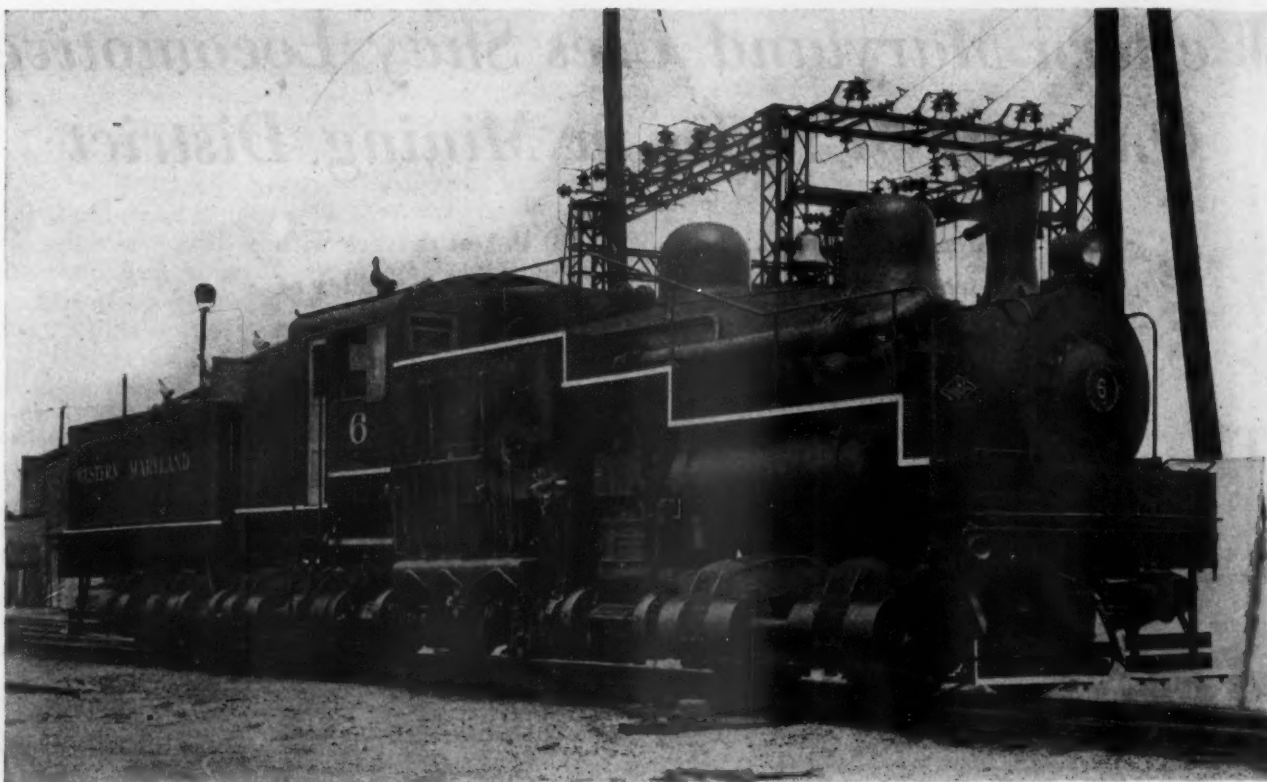
The machinery and running gear consists of a three-cylinder, single-expansion engine located on the right side immediately ahead of the cab. Directly connected to the engine crank shaft is a line shaft assembly which transmits power to three four-wheel trucks, alike in essential details and dimensions. Two of the trucks are located under the locomotive, on centers of 29 ft. 6 in., and one under the tender 13 ft. 10 in. back of the center of the rear engine truck.

The Three-Cylinder Engine

The engine is a vertical three-cylinder single-expansion unit with piston valves and Stephenson valve gear. The cylinders are 17 in. bore and 18 in. stroke. Steam distribution is effected by 9 in. piston valves operating in bushings with a 4 $\frac{3}{4}$ -in. maximum travel. The valve gear is controlled by an Alco Type G power reverse gear through double reverse cranks located in planes at right angles to each other. The reverse shaft bearings are embodied in the vertical engine frames.



The Boiler is 14 $\frac{3}{4}$ in. Off Center



The pistons are cast iron with $3\frac{1}{2}$ -in. hammered-steel rods secured by a taper fit to cast-steel crossheads operating in cast-iron guides in the engine frame. The forged connecting rods have brasses with two babbitt strips in each half and are adjustable at both crosshead and crank shaft ends. The crank

Right Side of Locomotive Showing the Vertical Three-Cylinder Engine and Line Shaft

shaft is $7\frac{1}{4}$ in. in diameter with $7\frac{1}{4}$ -in. by 7-in. journals. The shaft is supported by four main bearings in the

bed plate with removable bearing caps and brass bearings.

The backbone of the engine assembly is a steel bed casting to which three separate vertical engine frames containing the crosshead guides are bolted. The lower ends of these vertical frames are flanged to form the pads of the bed con-



The Left Side Has a Clean Cut Appearance—the Frame Construction Is Visible

nection and the upper ends are flanged for the cylinder connection.

On each vertical engine frame is a cast-steel valve-motion support containing the valve crosshead guide. These valve-motion supports are bolted to the side members of the vertical engine frames and act as strength members.

The cylinders and piston-valve chambers are cast as integral units and may be removed separately from the vertical engine frames. Both the engine bed plate and vertical frames are rigidly bolted to the locomotive girder frame at the top and bottom frame rails.

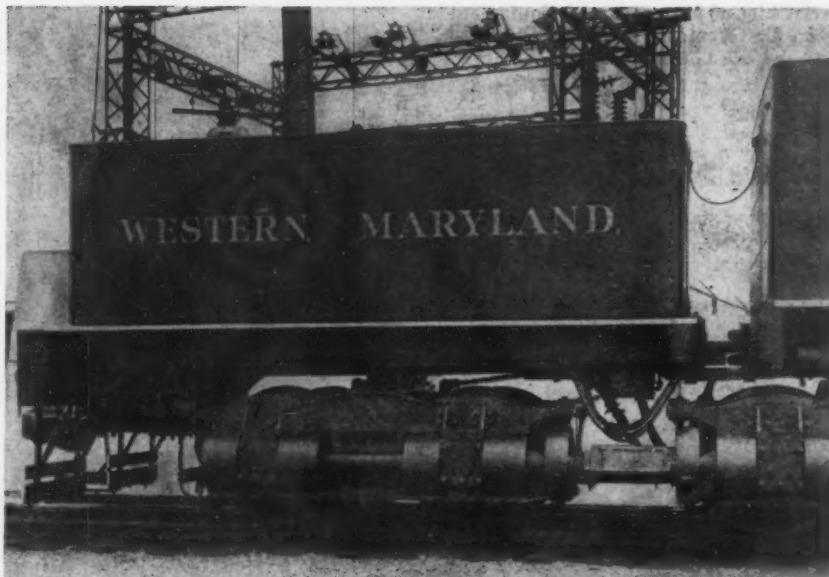
The line shaft which transmits power to the trucks has three pairs of universal couplings; one pair between the tender and rear engine truck; one pair between the rear engine truck and the rear of the engine crank shaft, and one pair between the front of the engine crank shaft and the front engine truck. Each coupling consists of two forked ends, or horns, forming a universal joint. The horn ends operate in bushings in the coupler ring. Removable cellars containing oil fittings are used at the four horn ends. Slip joints of square cross section, between each pair of couplings, permit truck swing adequate to negotiate 22-deg. curves. The horn couplings are cast steel, shrunk on and keyed.

Trucks and Drive Mechanism

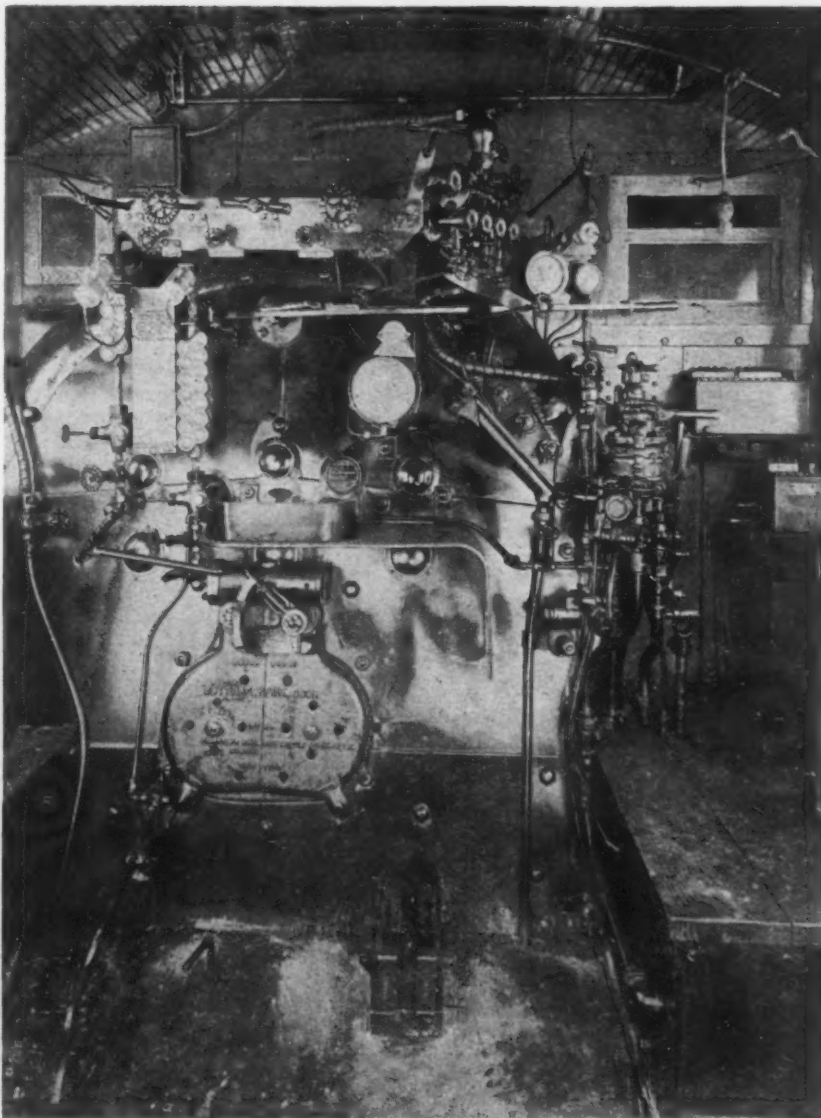
The three four-wheel trucks have cast-steel side members and forged truck-box binders. At each truck there are body and truck bolsters consisting of a pair of 12-in. 40-lb. channels with 1½-in. cover plates. Coil springs, 36 in number, between the bolsters, carry the load.

Six of the 12 truck wheels, on the right side, have cast-steel wheel centers of special design to accommodate the rim of the drive gear on the outside of the wheel and with lugs cast on the inside to prevent shearing the gear holding bolts in case of derailment. Steel tires are shrunk onto the wheel centers. The six left-side wheels are rolled steel. All wheels are 48 in. diameter and are mounted on carbon steel axles with 8½-in. by 10-in. journals running in oil-lubricated bronze-bearing truck boxes. The truck boxes on the right side are a special design which incorporates both the journal bearings for the axles and the bearings for the pinion, or line shaft. These are at right angles to each other. The line shaft bearings are 6½ in. by 14 in. The pinions are located ahead of each axle and are keyed to the line shaft. The gear ratio is 2.45 to 1 with 20 teeth on the pinion and 49 teeth on the gear. The maximum locomotive speed is 22 m.p.h. at a maximum engine speed of 377 r.p.m.

The cab is the vestibule type, of riveted construction. The cab and the coal space, having a capacity of nine tons, are built as a unit and are 6 ft. 10¼ in. long. There is approximately 5½ ft. between the fire door and coal gates. The cab width is 119 in.



The Tender Tank Is Supported at Two Points—the Truck and the Hinge Connection to the Engine



The Cab Affords Plenty of Working Room and Is of the Vestibule Type

Partial List of Materials and Equipment on the Western Maryland Shay Locomotives

Firedoor	Franklin Railway Supply Co., Inc., New York.
Couplers	W. H. Miner, Inc., Chicago.
Brake equipment ..	Westinghouse Air Brake Co., Wilmerding, Pa.
Gage cocks; lub- ricators; whistle	Nathan Manufacturing Co., New York.
Blow-off cock	The Okadee Co., Chicago.
Steam gage	Ashcroft Gauge Div., Man- ning, Maxwell, & Moore, Inc., Bridgeport 2, Conn.
Safety valves ...	Ashton Valve Co., Boston, Mass.
Water glass	Hanlon Drifting Valve Co., Boston, Mass.
Power reverse gear	American Locomotive Co., New York.
Lubrication	Manzel Bros. Co., Buffalo 10, N. Y.
Superheater	The Superheater Co., New York.
Brick arch	American Arch Co., Inc., New York.
Staybolts	Flannery Bolt Co., Bridge- ville, Pa.
Injectors and checks	Wm. Sellers & Co., Inc., Philadelphia, Pa.
Headlight; gener- ator	The Pyle-National Co., Chi- cago.
Bell ringer	U. S. Metallic Packing Co., Philadelphia, Pa.

Lubrication is effected by means of two Manzel oil pumps, one a three-feed unit for the engine steam chests and the other a 10-feed unit for the engine guides and bearings. A Nathan four-feed, four-pint automatic sight-feed oiler is located in the cab.

The locomotive is equipped with Westinghouse Schedule ET-6 air brakes having a single 8½-in. cross compound compressor and one 24½-in. by 102-in. main reservoir located under the run-boards on the right side.



The Rear of the Tender

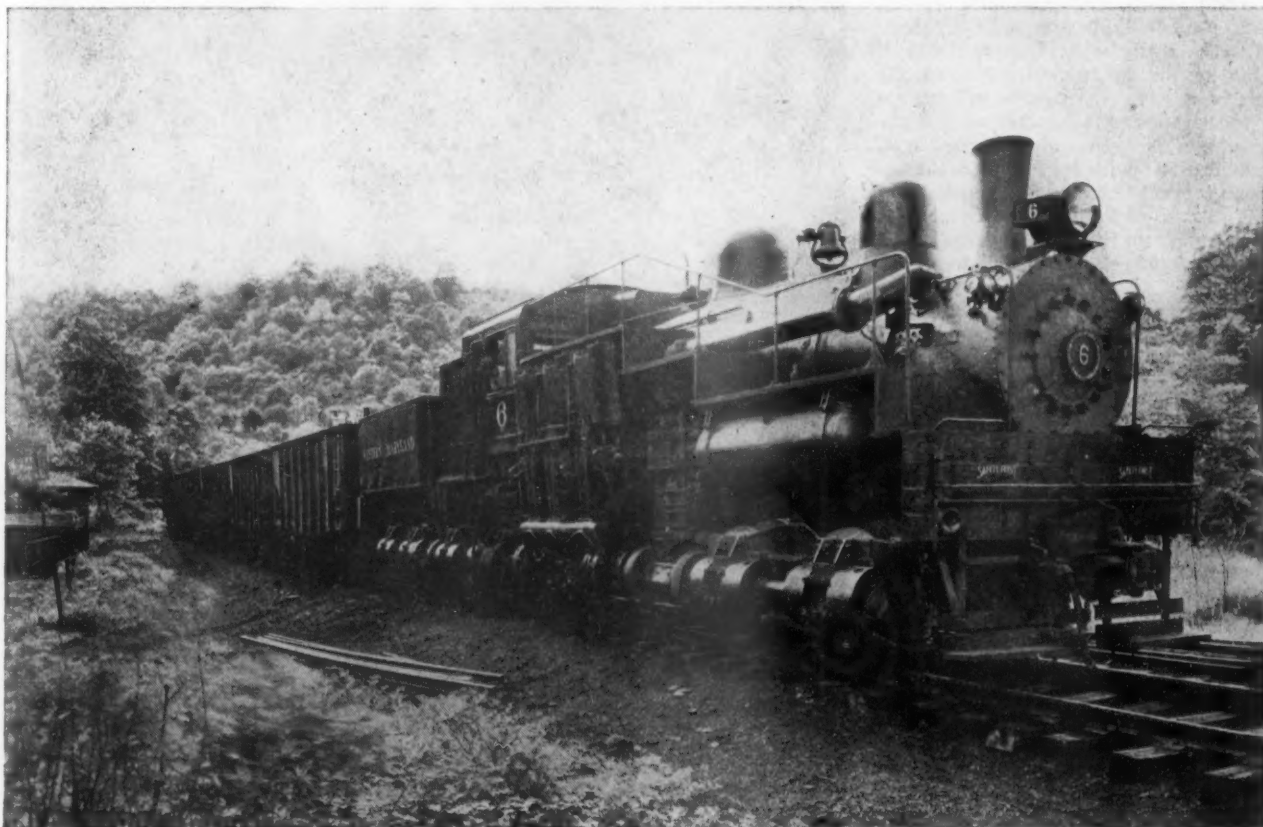
The tender tank is mounted on a structural frame having sills 12 in. deep. The rectangular tank is 17 ft. 0¾ in. long, 60 in. deep and 125½ in. wide; it has a capacity of 6,000 gal. The tank is built with 3/16-in. side sheets and ¼-in. bottom sheets.

The tender is supported on a single four-wheel truck and stability is maintained by a hinge connection between engine and tender consisting of a double jaw casting on the rear of the engine frame into which a rigid bar, riveted to the tender frame, and a conventional drawbar are inserted. A drawbar pin

General Dimensions and Weights of the Western Maryland Shay Type Locomotives

Builder	Lima Locomotive works
Type of locomotive	Shay geared
Road number	6
Service	Freight
Rated tractive force, engine, 85 per cent, lb.	59,740
Weights in working order, lb.: On drivers	324,000
Total engine and tender	324,000
Wheel bases, ft.-in.: Driving	49-0
Engine, total	35-2
Engine and tender, total	49-0
Truck wheel base, rigid	5-8
Driving wheels, diameter outside, tires, in.	48
Cylinders, number, diameter and stroke, in.	(3) 17 x 18
Valve gear, type	Stephenson
Valves, piston type, size, in.	9
Maximum travel, in.	4¾
Boiler: Steam pressure, lb.	200
Diameter, first ring, outside, in.	62¾
Firebox length, in.	114
Firebox width, in.	61¼
Arch tubes, number and diameter, in.	(3) 3
Tubes, number and diameter, in.	156-2
Flues, number and diameter, in.	28-5¾
Length over tube sheets, ft.-in.	13-6
Fuel	Bituminous
Grate area, sq. ft.	48.5
Heating surfaces, sq. ft.: Firebox and arch tubes	226
Firebox total	226
Tubes and flues	1,623
Evaporative, total	1,849
Superheating	429
Combined evap. and superheat.	2,278
Tender: Style	Rectangular
Water capacity, gal.	6,000
Fuel capacity, tons	9

in the engine frame casting passes through both bars. The inner surface contours of both the male bar casting and the engine frame casting are such as to allow for considerable movement between engine and tender on vertical curves.



Railroads Should "Wash Their Faces"

Drab and antiquated stations and working places can be modernized at reasonable expense, and ought to be

WHILE the railroads annually spend substantial sums for maintenance, additions and betterments to the railroad plant, there are many obsolete and inadequate buildings in use at this time. There are countless passenger stations of the obsolete type and many others in poor condition, badly equipped, and in need of renovation and repairs. These facilities must be put in shape or replaced with structures that offer present-day standards to the public. They need some paint, structural repairs, improved and modern heating, lighting, adequate and sanitary toilet and washroom facilities, screens, and an adequate supply of pure drinking water, and they should be kept clean. Many suburban stations in areas contiguous to large terminal passenger stations are of the small-town type of original construction without platform protection against bad weather and with little or no conveniences for the traveling public. Auto parking areas for use of patrons are unprovided or inadequate.

If the railroads expect to encourage a fair share of future passenger transportation business, they must "wash their faces" and replace the unfit and obsolete facilities now offered to the patrons.

Shanties for Employees

The buildings, except general offices and a few shops, housing railroad employees, for the most part are of the obsolete type or original construction, poorly maintained, and in many instances remotely located. They do not serve or meet present-day requirements, nor do they approach the standards maintained by modern American industry. Railroad employees generally have long complained about the lack of reasonable facilities and comforts in this respect. Many of the clerical forces and other employees are housed in buildings and work under conditions long since discarded or abandoned by progressive industrial managers. In numerous instances they are housed in "shanties" and other buildings poorly located, with inadequate lighting, heating and sanitary facilities and other personal comforts. Locker facilities and a place to change clothes and "wash up" are generally unprovided. Toilet facilities of the modern type are virtually unknown and good drinking water is available by means of the "water

This article reproduces, almost in *extenso*, an article written by Mr. Harrison for the October issue of "Railway Clerk," an advance copy of which he kindly made available to *Railway Age*. The leading editorial in this issue discusses this article. Previous expressions by Mr. Harrison in his serial analysis of railroad problems were summarized in the *Railway Age* of July 7 and September 1.

By **GEORGE M. HARRISON**

President, Brotherhood of Railway Clerks

bucket and old-fashioned cooler." Air conditioning is practically unknown.

Many freight-house platforms are rough and in poor condition and need to be repaired and modernized or replaced. In numerous instances these facilities do not provide protections against inclement weather and they are of the low standards heretofore described. The employees sweat it out in the summer and freeze out in the winter. There has been little attention given to providing eating facilities for many of the workers in remote or "out-of-the-way" locations.

Few Amenities for Women

A typical letter received from an employee sometime ago contained some interesting comparisons between the facilities provided by the railroad and those of a number of local factories and this is the gist of what he said:

"Many factories around here have cafeterias where their employees can get good, warm, wholesome food at reasonable prices. Our offices, shops and storerooms are too far away from town to enable us to go to a restaurant and our lunches are cold sandwiches brought from home. . . . Many of the industries here equip their factories and offices with good clean lounges and sanitary rest rooms, but let me tell you about conditions which the girls of the general storekeeper's office called attention to in a petition they sent to their employing officer.

"The girls' rest room is a 10 ft. x 10 ft. cubicle—a dark, dismal smelly place without outside ventilation or light. It has two toilets and one washbowl. It accommodates 10 girls. But that isn't all. The general storekeeper is planning to cut this room in two to take care of women employees in the stores warehouse!

"Consider another aspect of our working conditions. These factories I have been talking about are nearly all equipped with emergency hospitals. Company-paid nurses—and I mean graduate nurses—are on duty all the time. What happens when some of us get sick or have an accident. We do not even possess the means of getting the patient to a doctor. We call the city police department ambulance—and it gets here eventually."

This story is typical of conditions under which many railroad employees work throughout the country. Why are the railroads so neglectful of providing

healthful and agreeable work places for their employees?

The pat answer to that question is cost. But that doesn't explain why men and women ruin their eyes working under inadequate lighting; why they are not provided with decent toilet facilities. That's neglect, pure and simple. That's bad management. It doesn't cost a fortune to install good lighting fixtures; it wouldn't deprive a single stockholder of his dividends to do even a sizable job of plumbing.

The effects of the conditions of which I speak on the health and happiness and efficiency of workers is difficult to determine, but plain common sense tells us that they are conducive to some of these conditions of mind and body. There is no way of telling how much ill-ventilated, ill-heated, unsanitary work places cost both employees and employers in time lost on account of sickness, in inefficiency and shoddy work. But a lot of progressive employers haven't been waiting around for statisticians to come up with figures and charts; they applied their own common sense and understanding of workers and how they react to decent working conditions and provided them. The modern factory buildings equipped with every comfort and convenience a worker could ask for weren't just built to spend money. The people who built them did so to attract the cream of the labor crop and get the greatest production possible out of those they hired.

A Start Should Be Made

We feel railroad management should give some attention to this problem. In the reconversion planning of the railroads it should not be overlooked. To do the job in its entirety and at once would be practically impossible and the cost would be substantial, because it has been so long neglected. But because it has been so long neglected a program of rehabilitation should begin at once. It is a program in which employees' representatives can act as a spark plug in getting started. As I have pointed out, many of the disagreeable working condition are due to sheer neglect on the part of management. Where that is the fault—when conditions can be improved without large expenditures—something can be done to correct it by bringing the matter to the attention of the proper authority.

We hope that management will come to a realization of the value of agreeable work places and good passenger facilities and make a beginning on the larger program of ridding the industry of its "slums."

Conversion of Gages in Australia

Report by Sir Harold Clapp, K.B.E., recommends extensive changes from present multiple standards to 4-ft. 8½-in. to promote military security and national development

LIKE Mark Twain's comment on the weather, successive Australian governments have frequently talked about standardization of railway gages but, until last year, none has ever done anything about it. Shocked out of its complacency by the war, however, which forcibly brought home the military necessity of an efficiently co-related railway transportation system, the Commonwealth Cabinet in 1944 authorized Sir Harold Clapp, director-general of land transport, and a noted Australian railway authority, to investigate standardi-

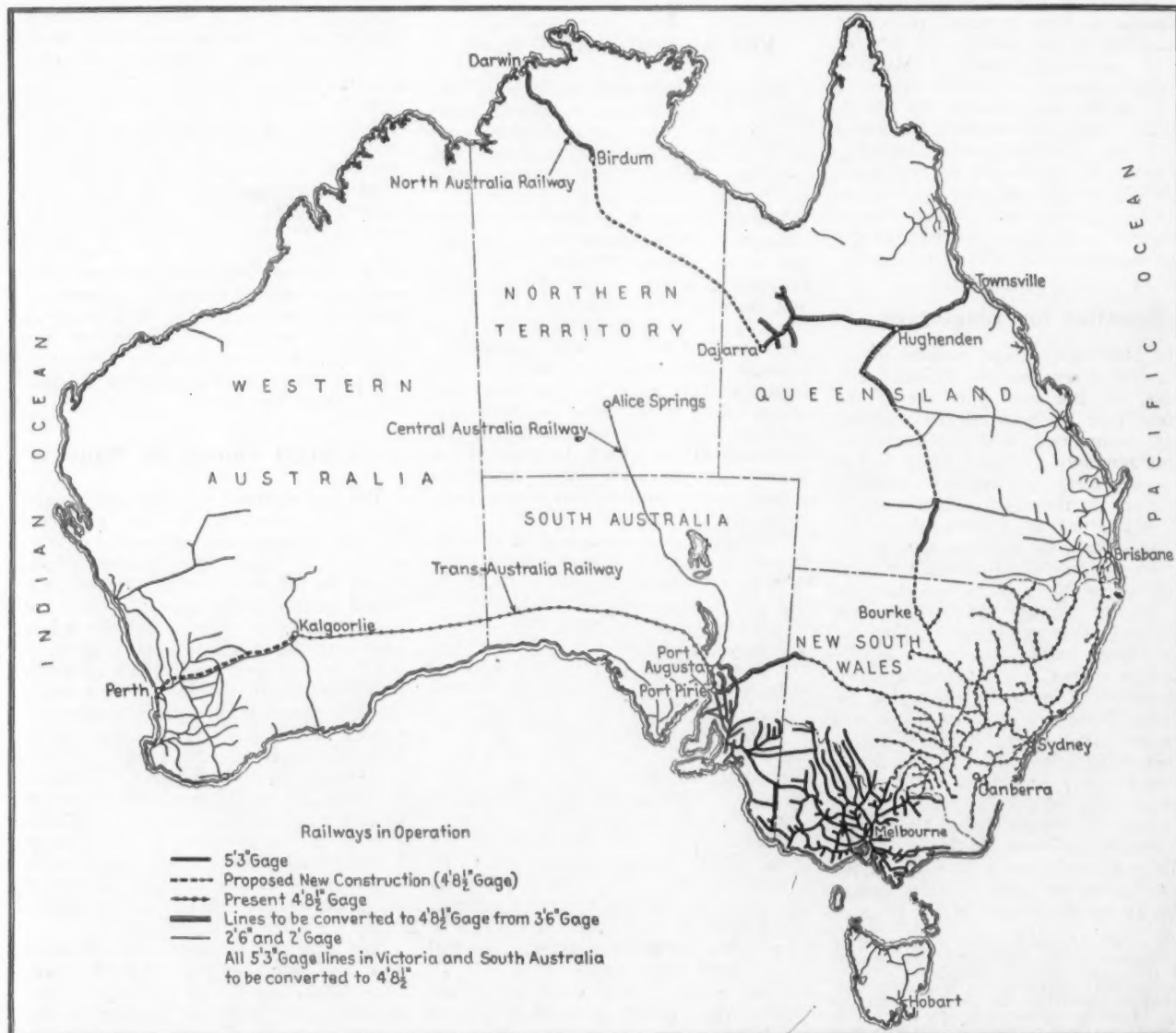
zation of gages on a 4-ft. 8½-in. basis and directed him to submit a report, together with a detailed plan.*

A comprehensive report has now been submitted which includes step-by-step proposals for the conversion of many lines to 4-ft. 8½-in. gage and for the construction of a number of standard-gage lines, a scheme for the conversion of tracks and structures, plans for the conversion of locomotives and rolling stock, and estimates of the costs, man-

* Announced and commented on in the *Railway Age* of December 16, 1944, page 926.

power and time involved. The completion of this plan or some modification of it, acceptable to the states, will probably be one of Australia's largest post-war projects.

An idea of the extent of the problem involved may be gained by the fact that, with the exception of several federal railroads, each state operates separately the railway systems within its borders, and the further fact that these railway systems were originally constructed to serve as inland feeders to and from the ports; much of the interstate traffic being



Railway Map of Australia, Showing the Lines of Different Gages and Changes Proposed

handled by coastal shipping. At the present time there are five different railway gages in the country, and the route mileage of the different railway gages in the several mainland states is approximately as follows:

5 ft. 3 in.—6,132 miles in Victoria and South Australia.

4 ft. 8½ in.—7,322 miles; includes the Trans-Australian railway line linking South Australia and Western Australia (owned by the federal government), and lines in New South Wales.

3 ft. 6 in.—13,015 miles; includes other Commonwealth lines and state-owned lines in Queensland, South Australia and Western Australia.

2 ft. 6 in., and 2 ft.—522 miles.

Three Proposals

The gage conversion plan submitted presents three proposals—A, B and C. Briefly proposal A calls for the establishment of a trans-continental standard-gage line across the southern portion of the continent, from New South Wales (in which state the railways are all 4-ft. 8½-in. gage) west through Port Pirie and Port Augusta in South Australia, then over the Trans-Australian Railway from Port Augusta to Kalgoorlie, Western Australia, and thence to Perth, an important harbor near the extreme southwestern tip of the continent. This will provide standard-gage routes between Brisbane and Sydney, on the east coast, and Perth, on the west coast. Included in this phase of the plan are the construction of 419 miles of a standard-gage line from Kalgoorlie to Perth and the conversion to standard gage of 7,178 miles of line, including the 5-ft. 3-in. gage lines in the states of Victoria and South Australia. This latter step would complete the standardization of practically all of the south-east corner of the continent, where a large part of the industry and population of the country are located. The total cost of Proposal A, including conversion of locomotives and rolling stock, is estimated at \$178,000,000.

Proposals B and C

Under Proposal B, the report recommends the development of an interior north-south standard-gage line from Bourke, New South Wales, northward through the center of Queensland to Hughenden, where it will connect with an east-west line to be converted to standard gage, extending between Townsville, Queensland, on the east coast, and Dajarra, near the western border of Queensland. This part of the plan calls for the construction of 533 miles of new or independent standard-gage line and the conversion from narrow to standard gage of 1,011 miles of line. The estimated cost of Proposal B, including locomotives and rolling stock, is \$87,000,000.

The third step of the plan, Proposal C, calls for the establishment of a standard-gage line between Dajarra, Queensland,

and Darwin, on the north coast of the continent. This step will require the construction of 645 miles of new line and the conversion from a 3-ft. 6 in. gage to standard gage of 316 miles of line. The estimated cost of Proposal C is \$44,000,000, bringing the total cost of Proposals A, B, and C to \$309,000,000.

The plan also recommends that, upon agreement being reached between the Commonwealth and the states for carrying out Proposals A, B, and C, surveys, plans and estimates should be made for the eventual conversion to standard gage at a later date of all other railway lines in the states of Queensland and Western Australia. Other recommendations are that the conversion of the 3-ft. 6-in. gage Central Australian Railway (Port Augusta-Alice Springs) to standard gage be deferred indefinitely, and that no action be taken to introduce standard gage in Tasmania.

It is interesting to note that the north-south standard-gage line in Proposal B was recommended rather than the conversion and extension of the Central Australian railway, because of the much better business and development prospects in Central Queensland than in the territory traversed by the Central Australian Railway. Improvement of the latter railway, and the extension through arid and sparsely settled regions to connect with the North Australian Railway, would serve no purpose, except military defense, which will be served equally well by the Queensland line, which follows a route about 300 to 400 miles inland from the east coast.

Eight Years to Complete

The report estimates that it will take eight years to complete Proposals A, B, and C, and the plan of doing the work is divided into two phases, preliminary work and actual conversion. The preliminary work will consist of assembling material and equipment, building the new lines required, alterations to yards, shops and other structures, the conversion of a portion of the locomotives and rolling stock, the construction of new locomotives and rolling stock, and preparing tracks and structures for actual conversion.

The actual conversion will be done progressively on lines or on sections of lines, and three-rail track (two gages) will probably be constructed in many instances, until conversion has been completed, after which one rail will be removed. This latter phase of the work will be accompanied by conversion of the remaining locomotives and rolling stock. In general, most locomotives and cars will be converted by the substitution of standard-gage axles and trucks.

The report estimates that standardization of gages will require 474,000 tons of rail and fastenings, 161,000 tons of steel crossties, 12,000,000 wood crossties, and 215,000 tons of steel for rolling stock and other conversion purposes. The man-power required for the conversion work is estimated at approximately

26,000 man-years of skilled labor and 77,000 man-years of unskilled labor. In addition, it is estimated that the labor required to manufacture or produce the rails, fastenings, and steel and timber ties will amount to approximately 31,000 man-years.

Other Recommendations

In this comprehensive report, Sir Harold goes on to make many recommendations as to future Australian railroad policy, stating, "to be fully effective in the national sense, unification of gages must be accompanied by unification of railway thinking and planning, standardization of equipment; and the introduction of modern methods to the greatest extent practicable, with the object of securing maximum efficiency and service. In my opinion, standardization without modernization could not be justified."

Specifically included in his recommendations concerning future policy are comments concerning the establishment of through routes; increased train speeds; more travel comforts, including the air-conditioning of passenger cars; the use of electrification in dense-traffic areas; the use of Diesel-electric power on desert sections of the lines to Perth and Darwin, to save hauling coal and water; and the elimination of state barriers to interstate railway transportation by standardization of equipment and by modification of the freight rate system to establish through rates.

In the concluding portion of his report, Sir Harold states, "From any serious study of this subject two paramount facts emerge: first, that for the safety and well-being of this great country, standardization of railway gages will have to be undertaken ultimately (that has been demonstrated only too clearly by the world war); and secondly, that the longer it is deferred the more costly it becomes."

* * *

Section Foreman's Dream

Extra Seven-four-six went into the ditch
At the switch, just south of the tower,
Put the engine and tank
And ten cars down the bank,
And held Number Eight for an hour

They called us all upon the carpet,
The G. M. was sore it would seem,
Thought they'd give me the walk
Till they started to talk,
Then I knew it was only a dream.

With his hand on the engineer's shoulder
The trainmaster said with a sigh,
It was not a low joint
Or a battered switch point,
He was taking the "puzzle" in high.

Then the engineer said with conviction,
I can prove by the man in the tower,
When he gave me the ball
I was rocking them all,
And rolling them sixty an hour.

The master mechanic yelled loudly,
If you'll let me I'll prove in a jiff,
My department's to blame,
I acknowledge with shame,
That the engine was rigid and stiff.

I'm not much at visions or dreaming,
It's seldom I sleep on my back,
I can side-step and scheme,
But it sure is a dream
When they don't put the blame on the track.

—From Maine Central Employees Magazine

How Shippers Can Improve R. R. Service

Railroad improvements should be tax-exempt if tax aid to rivals continues—Shippers have a stake in pending transport legislation and should safeguard their real interests in rate disputes—Car economy still a need

AT war's end the railroads would be ungrateful if they did not acknowledge their debt to the work of the Shippers Advisory Boards. These boards were conceived in the chaos and confusion of the era of World War I. It is not too much to say that during World War II, we simply could not have carried on with any degree of success without these boards.

The performance of the railroads in World War II would have been impossible except for the expenditure since 1920 of more than twelve billion dollars for improvement of the railway plant. That amount was spent to improve tracks, grades, sidings, curves, terminals and the fixed railroad plant, and to acquire modern freight and passenger carrying cars. New types of locomotives have been developed and old types improved and modernized.

New types of power include the Diesel-electric and steam turbine locomotives. The lightweight, streamlined, air-conditioned passenger train has become standard equipment. Freight-carrying cars of improved design and increased capacity have been provided. Improved signals and interlockers; automatic train control; centralized traffic control; and improved communications systems, including the use of radio, have added much to increased efficiency of operation.

More Enlightened Public Policy

Yet the most striking contrast between the two war periods is found in the matter of public policy. Politically and economically, the transportation situation at the close of World War II is in striking contrast with conditions which prevailed at the close of World War I. We had federal control during World War I. Throughout the present war the railroads have been operated under private management. After the first war, the future of railroad transportation revolved around arguments for three plans: (1) Continuing federal control, or (2) a plan advocated by labor which called for government ownership of the railroads, but operation by a corporation to be managed by a board of directors consisting of five members from the public, five from the

By FRED G. CURLEY

President, Atchison, Topeka & Santa Fe

railroads, and five from the employees; and (3) the plan which was accepted, namely, the restoration of privately owned and privately operated railroads. In giving expression to that decision our government passed the Transportation Act of 1920, which in a large measure was the first attempt to formulate a national transportation policy.

The financial plight of the railroads after World War I, following control by the federal government, was so unfortunate that the return of the railroads to their owners in 1920 could not be effected successfully without impairment of service unless the government was willing to provide financial assistance to the railroads.

In order to protect the earnings of the railways until rates could be adjusted upward to help offset large increases in operating costs growing out of federal control, Congress provided that the government would guarantee to the railways for a period of six months a net railway operating income equal to one-half the annual compensation received by the carriers during the period of federal control. It provided, also, that the Commission should establish such rates that carriers could earn a fair return upon the value of their property. That principle was not new, having been upheld by the Supreme Court as early as 1898.

Loss from Federal Operation

Federal operation, despite rate increases put into effect by the Director-General in 1918, resulted in losses of more than \$1,600,000,000. The need for increased rates was recognized when the roads were returned to their owners.

The Commission, in keeping with the policy of the Transportation Act of 1920, authorized increases in passenger fares, excess baggage rates, and rates on milk and cream carried in passenger trains, of 20 per cent; and in freight rates, 40 per cent in eastern territory, 25 per cent in southern and mountain-Pacific territories, 35 per cent in western territory; with 33-1/3 per cent on inter-regional traffic. The increases were applied to all commodities with minor exceptions.

What a contrast between 1920 and 1945! As we have pointed out, government operation during World War I cost the public more than \$1,600 million. The railroads under private management have paid more than four billion dollars in federal income taxes during World War II. In 1944 all railroad taxes averaged more than five million dollars per day! And taxes, however, are not the only benefits received by the government from the railroads during this war. On a large part of government personnel and freight, land-grant rates have applied, which, being substantially lower than commercial rates, have resulted in a saving to the government, averaging about \$20,000,000 a month.

A New Transport Policy

The Transportation Act of 1920 established a national transportation policy but with the advent of new forms of transportation and the expansion and development of others, it became necessary to establish certain changes in the national transportation policy. The Transportation Act of 1940 did that. The Act of 1940 defined the national transportation policy as follows:

"It is hereby declared to be the national transportation policy of the Congress to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, economical, and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage the establishment and maintenance of reasonable charges for transportation services, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several states and the duly authorized officials thereof; and to encourage fair wages and equitable working conditions;—all to the end of developing, coordinating, and preserving a national transportation system by water, highway and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service and of the national defense. All of the provisions of this Act shall be administered and enforced with a view to carrying out the above declaration of policy."

Five years have passed since the 1940 Act was approved by Congress, but the situation is still confusing. Today, while still professing national interest in the preservation of the inherent advantages of each form of transportation, federal, state and local governments are making subsidies to competing forms of transportation in amounts so huge as to threaten the continued prosperity of

railroads, and not only that—they are contemplating still larger subsidies.

Lavish Aid to RR's. Rivals

Bills favorably reported by committees of both houses, authorizing a vast federal aid airport construction program, involving the ultimate expenditure of probably more than a billion dollars by federal and state governments in the next decade, furnish a good illustration. Support for such legislation comes in part from those who favor a public works program to provide post-war employment. Principally, however, the demand for the legislation seems to rest on the belief by government officials that there exists a definite public opinion that the United States must have a uniform nationwide system of airports, adequate for both civilian and military needs, and that the federal government must accord financial aid for the construction of such airports as it has accorded for the construction of highways. The railroads recorded their protest against the granting of government aid for airports in the hearings on the airport bill before the House Committee on Interstate and Foreign Commerce. Federal airport legislation in some form, however, appears to be headed for enactment.

My view is that as a matter of general policy, the federal government should not subsidize any form of transportation; and if the federal government advances funds to be used in airport construction, some form of user tax or user charge should be imposed which would reimburse the government. Even then, this would mean the financing by government of facilities which railroads must finance themselves. It means also that—because government does the financing—these other forms of transportation escape a fixed charge and merely pay a charge of some kind that is predicated upon the use they make of the government-financed facility.

Who Pays "Fixed Charges"?

I recall that it was not so long ago that certain people made the charge that the evil of the railroads was their high fixed charges. Here we find that the public is kidding itself about the fixed charges for these other forms of transportation. If the railroads did not have to provide their own rights of way and their own terminal facilities, their fixed charges would not be much of a problem.

It is estimated that air transportation has been subsidized by federal, state, and municipal governments to the extent of almost two billion dollars since 1918 and that post-war schemes for an air transportation system that will serve any substantial portion of the country adequately, involve governmental expenditures of staggering amounts.

It would seem to be so nearly

axiomatic as to require no argument or debate that one form of transportation agency will be seriously disadvantaged if competing forms are aided by the general taxpayers. It is as if two boxers were put into the ring, one with both hands free and the other with one hand tied behind his back.

All transportation agencies other than railroads, in one form or another, are the beneficiaries of public funds. In the case of the water carriers, the public expenditure is for improving the streams on which they operate, and furnishing freight and passenger terminals for their use. In the case of airways, it is for air terminals, beacons and other safety devices. In the case of highway carriers, it is for building new highways and improving old.

The expenditures for highways will result in better and faster highways than we have ever had before. Hills will be cut down and curves will be flattened. Apparently it is the thinking on the part of the federal government that for the benefits which come to the nation by reason of improvements in this one part of our transportation plant, tax monies should be used.

Users Pay for R.R. Betterments

The railroads have been reducing grades and curvatures for years, but they must get their capital for new improvements from rates charged for services rendered. If those revenues are adequate, they can meet payrolls, meet their bills for materials and supplies, and may be lucky enough to have some money left over for a return to investors.

Perhaps the question of national defense influences these expenditures on the part of the federal government. If so, I think it is fair to say that, if anything has been learned by the American public during the last few years, it is that the railroads are absolutely necessary for the transportation of men and commodities during a period of war. They have learned unmistakably that, notwithstanding the growth of other and competing forms of transportation agencies, the railroads are still the one indispensable part of our national transportation system.

I have thought that the most logical and most equitable policy to pursue would be to let each transportation agency stand on its own feet. Let each agency derive its revenues and its financial needs through its own private enterprise, and forego these payments from the pockets of the taxpayers. Is this too much to ask? Perhaps it is in this day of ours. If there is no escape from such an era, and if the public expenditures for the development of waterways, airways, and highways are to continue, then in all fairness let us see what this means to the railroads and what, if anything, can be done about it.

I want nothing to do with anything which even approaches putting the government in the railroad business. But if, as a people, we believe that for

purposes of national defense and other benefits there should be a continuation of the use of tax monies for improvements in other systems of transportation, then let's consider something like this:

Tax Exemption for RRs.

To the extent that the railroads desire to make permanent roadway improvements, especially line and grade changes, let them receive tax exemptions. In other words, why not allow us a tax credit to offset a part of the cost of these improvements in our roadway, in keeping with the policy under which the federal government matches dollar for dollar the money advanced by the individual states for improvements in highways?

The exemption from some or all federal taxes is not a new or unheard of thing. The provision for exemption in whole or in part in order to further some alleged public good is well established as a principle of federal taxation policy. The exemption of cooperatives is an example. The different tax rates or tax levels for different net incomes is another example. The difference between corporations and individuals is still another.

My first thought and my first hope would be against all federal aid. This suggestion of a tax exemption is made only in the thought that in the light of current events, governmental expenditures during the post-war period appear to be an inescapable part of our economy.

Investigations Proposed

Representative Clarence F. Lea, chairman of the House Committee on Interstate and Foreign Commerce, on July 12, 1945, offered a resolution in the House authorizing an investigation of the nation's transportation situation with particular reference to post-war problems. The purpose is to determine legislation that will bring about a consistent policy that is fair to all carriers, transport users, the investing public and labor. It is expected that Mr. Lea's resolution will be approved by the House.

Senator Mead, chairman of the special Senate Committee investigating the defense program, has offered an even broader resolution on the same general subject, and Senator McFarland has also introduced a bill, S. 556, and a substitute Senate Resolution 161, to establish a commission to study and report legislative recommendations on a coordinated transportation policy affecting aircraft, railroads, buses and trucks, including their communications needs.

I do not know what will come out of all these investigations. I hope that some way or other, if investigations are found to be essential, the whole matter can be handled comprehensively and that we do not find consideration given by one group to some particular form

of transportation, which group has no interest in other forms of transportation. I hope too that the views of President Truman as expressed when he was a senator on June 13, 1938, will prevail. At that time he said: "I believe that every kind of transportation should be treated alike by the government—equally regulated, equally taxed."

Land-Grant Rates

Earlier, I spoke of land-grant rates. Sometimes these land-grant rates are referred to as a subsidy for the benefit of the railroads in the early days of railroad construction. To the contrary, these aids were in no instance gifts, but were contracts.

Tied to the "grant of the land" was the condition that all government freight, all troops, and all mail should be hauled over the lines at reduced rates. The lands at the time of the grants were not particularly valuable. Whatever their value was, it has been long since and many times over repaid to the government in the form of direct reduced rates, to say nothing of the benefits which flowed from the building of the railroads. All the money realized from the sale of these lands by the Santa Fe Railway Company and its predecessors was approximately \$23,000,000. Land-grant deductions from Santa Fe revenue in 1944 alone amounted to approximately \$55,000,000; in 1943 approximately \$49,000,000; in 1942 approximately \$26,000,000. H. R. Bill 694 proposing repeal of land-grant rates is now pending on the Senate calendar where it rests with a favorable report from the Senate Interstate Commerce Committee.

There is an important issue before the people at the present time concerning what might be characterized as a jurisdictional question, namely, is the Department of Justice to replace some of the functions of the Interstate Commerce Commission? I believe that most students of transportation think it should not. One of those who has a definite conviction is Congressman Bulwinkle; the Bulwinkle Bill is very important and hearings on it before the House Committee on Interstate and Foreign Commerce are scheduled to begin in October.

"Reorganizing" the I. C. C.

Another important piece of legislation which could have a far-reaching effect on the future of the railroads is Senate Bill 1120, introduced by Senator Overman, seeking to give the President the authority to reorganize government departments and agencies.

It is well to keep in mind that our constitution gives the Congress the power to regulate the commerce between the states. I think and I believe upon close examination you will agree that on the long pull this matter of regulation of commerce between the states should be left with the agency which Congress created in 1887 to carry out the obli-

tions imposed by the constitution in conferring upon Congress the authority to regulate commerce between the states.

By reason of shortages of materials and man-power the railroads were not able to do all of the maintenance work during the war which should have been done from the standpoint of the proper standard of maintenance. This means that there are some things which ought to be done now, and money is required to do these things. But because we had the tax philosophy that we did during the war, particularly the excess profits tax, monies which normally would have been spent for the proper maintenance of the properties were drained away by the tax collector.

Deferred Maintenance

We have thought, because circumstances beyond our control prevented our maintaining the properties as we wanted to maintain them, that we should have some recognition of that fact on the part of the Bureau of Internal Revenue, at a time when we might reasonably expect to secure materials and to employ the necessary men. In other words, we believe that there should be recognition in our tax bill of these things which might be said to constitute deferred maintenance. Senator McCarran has introduced a bill which recognizes the equity of this position. It is not receiving the support which I think it should.

One of the most important situations that confront the railroads in the post-war period grows out of the decision of the Interstate Commerce Commission in the class rate investigation, Docket No. 28300, aimed at equalization of class rates east of the Rocky mountains and prescribing the so-called "ad interim" basis, whereby all class rates applicable within Official Classification territory are to be increased ten per cent and all class rates applicable within, to and from Western Trunk Line, Southwestern and Southeastern territories are to be reduced ten per cent and admonishing the carriers to unify the classification throughout the United States. The carriers have acceded to such admonition and have embarked upon the stupendous task of effecting a uniform classification.

As a permanent basis of class rates, the Commission has prescribed contemporaneously with the proposed uniform classification class rates which are approximately 115 per cent of the class rates now applicable within Official and Trunk Line territories.

Both the ad interim and the permanent basis of class rates will materially reduce the class rates applicable to and from and within Western territory, and notwithstanding the fact that a comparatively small percentage of the traffic moving within, to and from Western territory moves on class rates, the Commission's decision will necessarily affect the commodity, column and exceptions ratings that

have been voluntarily established by the carriers in order to permit western producers and receivers to transport their particular traffic in competition with producers outside of Western territory.

The western carriers realizing the effect upon their manufacturers and their merchants have filed a petition seeking reopening, reargument and reconsideration of this decision. In our request we stressed the fact that it will not inure to the benefit of the western producer.

It is possible that some of the interested parties in this investigation have not thoroughly analyzed the ultimate results of this decision and I feel that if the manufacturers and those interested in the continued progress of the west will analyze it and the petition filed on behalf of the western carriers, they will come to the conclusion that the decision will prove to be a deterrent to progress and industrialization in the west.

Many of the manufacturing interests in the south now realize the disadvantages of this sort. Certain southern interests have petitioned the commission to reopen the proceeding for reconsideration and modification, and have set forth therein pointed examples of how the rates as prescribed will be detrimental to southern interests rather than helpful.

Wage Demands

Another problem of paramount importance confronting the railroads today is the demand of the operating brotherhoods for increases of a minimum of \$2.50 for a basic day and some 47 changes in working rules, all of which contemplate very substantial increases in railway operating costs. The maintenance-of-way employees are demanding uniform rates of pay throughout the country, with a minimum of 75 cents per hour and corresponding increases in higher classifications. The shop craft employees have decided to demand a 36-hour week without reduction in their present pay for 48 hours' work. All of this would seem to indicate that other non-operating employees of the railroads also will make demands for increased wages and perhaps more restrictive working conditions.

From all indications, capital costs for new equipment will be higher in the future than they have been in the past. That means that if shippers and carriers can master a technique which improves the utilization of equipment, all of us will benefit. The shippers performed wonderfully during the war, especially in helping us speed up the movement of cars and in the heavier loading per car. The underlying urge during the war was an economy of equipment—there were just so many cars available and they had to do the job. We now face a situation where there is still need for economy of equip-

(Continued on page 566)

Ultra-High Frequency on the Rock Island

THE Chicago, Rock Island & Pacific has announced that in co-operation with the Sperry Gyroscope Company an installation of radio telephone train communication is to be made on 160 miles of double track between Chicago and Rock Island, using ultra-high frequency waves (2,660 megacycles). The equipment will include Klystron tubes manufactured by the Sperry Gyroscope Company for military and naval radar operations, hitherto a war secret. In contrast with the conventional antennae, an assembly of platters or discs is mounted on a short hollow tube only a few inches tall, this being an important factor in railroad applications where the clearance on cars and locomotives is limited.

The Rock Island has a license from the Federal Communications Commission to make tests in this ultra-high frequency range at 2,660 megacycles. The equipment, which is crystal-controlled, is operating with a power of 10-watts with a frequency modulation signal 150 kilocycles wide. The 60 channels assigned by the Federal Communications Commission to the railroads for head-end to rear train service are located in the 152-162-megacycle band, which is far below the 2,660-megacycle range being tried on the Rock Island. Successful operations in ultra-high frequency on the Rock Island are said to open up, for possible use, a portion of the radio spectrum in which there are



J. D. Farrington (Center), Chief Executive Officer, Rock Island, Inspects the Hitherto Secret Antenna Held by Dr. H. H. Willis, Vice-President, Sperry Gyroscope Company. The Other Antenna, Held by Ernest Dahl (Left), Electronic Engineer, Rock Island, Will Be Used at the Railroad's Wayside Stations

an enormous number of unused channels. The Rock Island has been assured that a permanent operating license at 2,660 megacycles will be granted as soon as tests have demonstrated the advantages of using ultra-high frequency. For some time, this type of equipment has been in regular service on one through freight train operating daily between Rock Island and Kansas City. The advantages claimed are that the ultra-high frequency is not subject to fade-out or "blind spots" under any adverse conditions, such as gorges, tunnels or steel bridges.

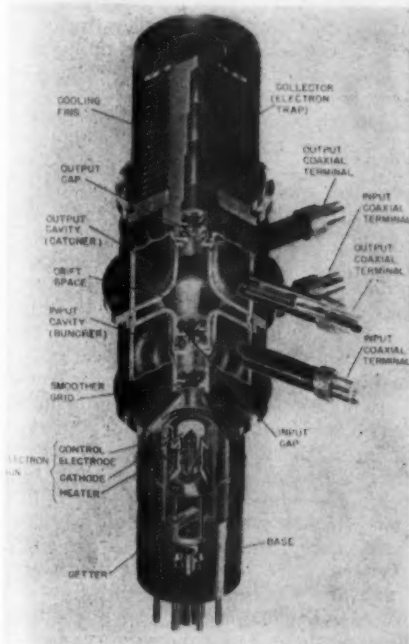
On the installation to be made between Chicago and Rock Island the Sperry Gyroscope Company is to furnish all of the equipment required except for power supply apparatus. Locomotives and cabooses assigned for through freight trains are to be equipped first, and the project will then be extended as rapidly as practicable to other trains as well as to certain wayside stations. The first locomotive and cabooses to be equipped with the latest types of the radio apparatus are expected to be ready for service in November.

When the Sperry Gyroscope Company first developed its velocity-modulated, ultra-high frequency tube, it registered the word "Klystron" as the name of the new device. This name—from a Greek word denoting the breaking of waves on a beach (coined by scientists of Stanford University who invented the tube)—is an apt description of the bunching of electrons between spaced grids within the tube. The Klystron produces a "pencil" of energy beamed

like light reflectors being used for this purpose.

The Klystron converts direct-current energy into radio frequency energy by modulating the velocity of an electron beam between spaced grids. The Rock Island installations will be under the direction of C. O. Ellis, superintendent of communications; E. A. Dahl, electronic engineer, and A. E. Ganzert, electrical engineer.

The Rock Island Train Communication Test Car Showing a 2,660-Megacycle Antenna Mounted on the Roof



Cutaway View of the Klystron Tube Which Has Been Released from Navy Security Restrictions and Is Now Being Adapted to Train Communication by the Rock Island



Britain's Trains Kept Running

How the English railroads kept the tracks open and repaired the damaged bridges and buildings throughout the "blitz" and fly-bomb and rocket attacks

By W. K. WALLACE

*Chief Engineer
London, Midland & Scottish Railway*

WHEN it became clear that Germany was bent upon aggression, the engineers of Britain's railways gave consideration to the steps necessary to maintain communications during the war. Bombing was anticipated, and lessons learned from the Spanish civil war were carefully studied, as it was realized that among the problems to be presented to the British railway maintenance engineer would be the restoration of bomb damage to tracks, bridges and buildings, the construction of protective structures in which essential staff could remain on duty during air raids, and the provision of protection for other staff members who could take shelter in case of an "Alert."

Arrangements were made by all of the railways for storing supplies of track materials at strategic points and plans were prepared for making emergency repairs to bridges. In Britain, the railways are seldom crossed at grade, which

has resulted in a very large number of bridges of relatively small span that must be maintained. For example, on the London, Midland & Scottish, with 7,000 geographical miles of line, there are 10,384 bridges over and 15,375 bridges under the line. By far the largest part of these are of relatively short span, up to 70 ft., so that emergency repairs, in the first instance, were visualized as timber trestles, supporting rolled-steel beam spans.

Later, the development of unit-fabricated structural steel trestling by the War Office led to the purchase and stocking of a considerable tonnage of this material for railway use, but, unfortunately, it was not available in quantity until the Battle of Britain was past and most of the bombing raids by piloted aircraft were over. It was, however, used during the flying-bomb and rocket attacks toward the end of the European war.

Although the great majority of bridges could be repaired by using rolled steel beams, there were some of larger span, and some situated over rapid or deep rivers, and so located as to be of extreme importance in the British railway network, that could not be repaired with these beams. To provide for the rapid repair or replacement of these bridges, four 120-ft. War Office spans, designed for end-launching, were obtained, and one was stored by each of the main-line companies. Fortunately, the enemy did not hit any of these important bridges, so that these emergency spans were not required and, in fact, have since been released for service in Europe.

Later experience during the "blitz" showed the advisability of having avail-

At the Outset of the War, Timetables Were Recast with a Maximum Scheduled Speed of 60 Miles Per Hour, but with Permission to Run Up to 75 M.P.H. to Make Up Time

able some complete bridge spans suitable for carrying railway loading, and 26 bridge spans varying from 40 ft. to 80 ft. in length were acquired and stored at strategic locations by the railways. They are plate-girder spans of the half-through type, and can be erected with bolted connections and temporary timber decks, but are designed to be riveted up later, encased in concrete, and left as permanent structures.

Protection of Staff

At the outbreak of war severe pressure was put on the engineering departments of the railways because of the widespread demand for protection for the staff. The bricking-up of windows, the erection of blast walls at doorways, and the removal of glass from station roofs or protecting it against splintering by coating it with bitumen, reinforced with hessian, all made extensive demands, as the using departments all desired that the work be done immediately.

The original conception of air raids was the arrival of hostile aircraft, the dropping of bombs, the departure of the bombers, and an "All Clear." It was thought this might occur at any hour of the day or night, so protection of staff had to be provided as near as possible to their places of work. This was done in many ways, including the utilization of existing subways and other structures which would be safe from blast effect, but most of the protection was provided by trenches lined with either timber or pre-cast reinforced concrete units, and, in the early days, a liberal provision of sand bags.

The first few sporadic raids led to stoppage of work and taking shelter, and if this had continued it would have impeded the war effort seriously. Fortunately, familiarity with raids bred contempt and more and more of the staff refused to go to shelter, although a number still ceased work. More elaborate warning systems, which differentiated between "Aircraft Approaching" and "Imminent Danger," assisted in maintaining continuity of employment.

In addition to providing splinter-proof and blast-proof protection for the staff at large, there were certain key men—the equivalent of American train dispatchers—who had to be given protection which it was hoped would be absolute. Accordingly, elaborate concrete shelters were constructed to protect this staff. On the writer's railway there were two categories of such shelters. One of these had a heavily reinforced concrete roof four feet thick, a layer of earth or sand four feet thick, and an inner concrete shell two feet thick. The side walls were similarly in three layers, three feet, three feet, and one foot six inches thick, respectively. The floor

was likewise three feet thick. All of the concrete was heavily reinforced in both directions, with heavy shear protection. The second category of shelters had continuous walls and roof one foot three inches thick. The floor was nine inches thick. Heavy steel gas-tight doors were provided, and each shelter had an emergency ventilating plant which could keep the inside atmosphere sweet and slightly above atmospheric pressure, so as to prevent the entry of poison gas, if such should be used.

13,891 Bomb Incidents

All of the foregoing construction work was well in hand immediately preceding and succeeding the outbreak of war, and the period known as the "phoney war" was used to very good advantage by the railways in building shelters and in taking other precautionary measures. Then came the Battle of Britain and the realization by the Luftwaffe that daylight raiding was impossible without suffering crippling casualties. The railways then experienced the night-long bombing raids of the winter of 1940-1941, when in London a 12-hour alert, with bombing throughout the entire period, was an almost regular occurrence.

During the same period, isolated attacks were made on provincial towns and cities and, owing to their smaller area, they suffered more intensive damage than was usual in London. For example, during the attack on Coventry on the night of November 14, 1940, the Coventry avoiding (i.e., cut-off) lines,

with a length of $3\frac{1}{2}$ miles, had 73 incidents. Fortunately the bombs were mostly of the 50-kilo size, so that it was possible to reopen the line for traffic in six days.

Owing to its geographical position, the Southern was the railway which suffered the bulk of the damage within London—this company's location being such that it required a shorter trip for the German aircraft than the other lines, but all the railways sustained an ample share of damage. This is seen in the following table, which records the number of incidents to railroad property by both ordinary bombs and V-1 and V-2 bombs.

Company	Number of Bomb Incidents
London, Midland & Scottish	3,108
London and North-Eastern	3,123
Great Western	1,467
Southern	4,453
London Passenger Transport Board	1,740

As the tracks of the London Passenger Transport Board are generally in subways, either deep or shallow, the damage suffered by them was quite different from that sustained by the main-line railways. The Board's organization specialized in repairs to brick and cast-iron-lined tunnels, although where its lines are in open country they sustained a considerable amount of surface damage. The Board also had to protect against the flooding of its deep-level tube lines under the River Thames, from

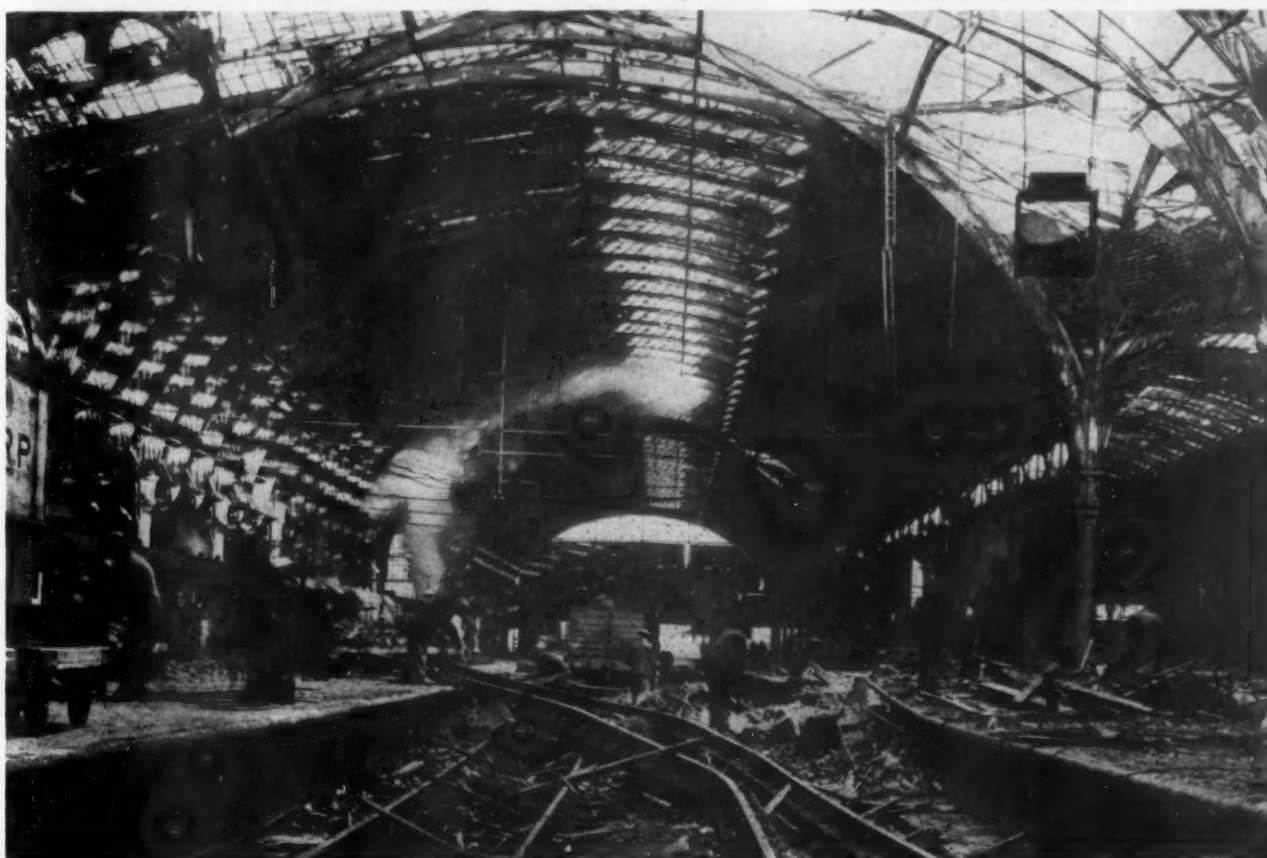
bombs dropped on the river bed, and special water-tight doors were provided on each side of the river to shut off the tunnels, and thus localize any damage that might occur. As these doors had to be closed before damage occurred if they were to be effective, lines under the Thames were closed to traffic and the doors were shut during an alert. This caused serious inconvenience to passenger traffic, but no other means of insuring safety could be devised.

Damage Scattered, Fortunately

Fortunately the German policy of bombing seemed to be based on terrorizing the populace, with the hope that it would lead to panic and disrupt output. As a result, there was not the concentrated attack on the railways which was later the feature of Allied bombing in Germany. Nevertheless, conditions were bad at times. The writer's line has three London terminals—Euston, which is approached by six lines, and St. Pancras and Broad Street, each of which is approached by four. One morning there was only one approach line to each of these terminals, the others being entirely blocked. This condition, however, did not prevail for more than a few hours.

Bomb hits on the track usually destroyed a pair of opposite rails, or two rails on each side, and the standard procedure adopted was to cast back into the crater the material that had been blown out by the bomb, filling out with carloads of cinders brought to the site, if possible, from both sides of the break

What Happened When a Bomb Penetrated the Roof of a Trainshed and Detonated on One of the Platforms





This Damage to an Important Railway Bridge Was Caused by a Flying Bomb (V-1), Which Exploded on the Deck Near One of the Main Girders

in the line. The distribution of the bombing rendered it inadvisable to attempt to use mechanical earth-moving equipment, such as bulldozers, for filling craters, as too much time would have been required in traveling from crater to crater and in loading the equipment on trucks or cars to be transported from site to site. It was, therefore, better to decide on what route could be opened first, and then fill the craters by hand, following this up by track laying and opening the line for traffic under "Caution."

Bridges and Buildings

More delay was caused when a bridge, particularly an underbridge, was hit. A bomb explosion behind an abutment, throwing the abutment forward and collapsing the bridge superstructure on to the debris and roadway below, was the more common form of damage.

Rail approaches to London are characterized by long retaining walls, usually of brickwork or mass concrete with a brick face. In numerous cases these were damaged and thrown onto the track. South of the Thames the railways approach London on long viaducts, usually of arched construction in brickwork, interspersed with girder bridges over the streets. When a small bomb made a direct hit on an arched viaduct it punched a hole in the arch and detonated inside the span, but did not cripple more than the arch penetrated. A larger bomb, such as a 250-kilo, and a size commonly used, might blow out an

intermediate pier and collapse two or more arches.

The method of repair in such cases was either to build a section of trestle with a rolled-steel beam deck, or to construct retaining walls at the broken ends of the viaduct and fill the space between solid. Girder bridges dropped into streets by failure of an abutment were usually replaced by a trestle, with emergency spans across the roadway, the damaged abutment and, possibly, also, the crater behind. Although the losses so caused were serious financially, they did not, as a rule, tie up railway traffic to any considerable extent, as the adjacent tracks could be cleared as soon as the debris had cooled down, and any steelwork cut up by oxy-acetylene flame and cleared away by power cranes. The accommodations lost by these fires were in many cases made good by the provision of new sheds designed to avoid the use of materials in short supply. On the L. M. S. these were usually of steel frame with siding and roofing of either corrugated protected metal or corrugated asbestos-cement sheathing. The former of these withstood blast better than the latter, but the choice of material was usually made on the grounds of immediate availability.

As in the United States, the war brought a large increase in traffic to the British railways, due primarily and im-

mediately to the national effort and the cutting off of coast-wise shipping by U-boat activity and sea mines, and later, by the rubber shortage due to the loss of Malaya, as well as the severe restrictions on the use of gasoline. The British railways had a further problem to contend with, probably in a more acute form than was experienced in the United States. This was the diversion of traffic from its accustomed routes. After Denmark and Norway were overrun,



Looking Through the Basement of a Station Into a Hole Blown Through the Arch of a Railroad Tunnel Extending Beneath the Structure

the eastern ports of England became too hazardous to use for imports and exports, a situation which applied also to the southern ports—London, Southampton, etc.—after the collapse of France.

The concentration of imports and exports at Britain's West Coast ports was further complicated by the convoy system, which led to traffic conditions of either "a feast or a famine." In consequence of this, a large mileage of additional tracks—main line, side tracks and loops—had to be provided to move traffic to and from the west coast and prevent congestion. This entailed four-tracking a number of double-tracked lines and providing lengthy running loops for freight trains, together with a number of marshalling and traffic yards, additional dock sidings, and yards adjacent to the ports for receiving and making up trains moving to and from the Midlands.

Concrete Blocks for Ties

Superimposed upon the labor difficulty was the shortage of timber, particularly ties. This led to the use of reinforced concrete as a substitute, either as a complete tie or as an isolated block (pot) under each rail, with or without tie bars connecting the two blocks.

The concrete pots were used very extensively in the new marshalling and storage yards, gage being maintained by using a full-length crosstie for every third or fourth rail support, although on curved track ties were used as frequently as every other support. In all, 257¼ miles of running tracks and 734½ miles

of sidings were laid by Britain's railways.

The outbreak of war found the tracks of the British railways in better condition than ever before; the refinements and improvements of the preceding years stood the country in good stead, and up to the present time there has been no need to apply blanket speed restrictions, as was the case in the first world war. At the onset of the war, ultra high-speed trains were withdrawn and timetables were recast with a maximum scheduled speed of 60 m.p.h., but with permission to run up to 75 m.p.h. to make up time. These changes were necessary to increase the traffic-carrying capacity of the lines, but the reduction of speeds had the added effect of reducing track maintenance, particularly on curves.

The supply of track materials has been drastically reduced. British rail mills have been unable to supply even the reduced tonnages granted to the railways, so nearly 200,000 tons of British section "bullhead" rails have been imported from the United States. These are of steel to the specifications of the American Railway Engineering Association, and are 39 ft. long, whereas the British standard is 60 ft. A considerable number of these rails have been flash butt-welded into lengths of 78 ft. and 117 ft., but the great majority of them have been used as received.

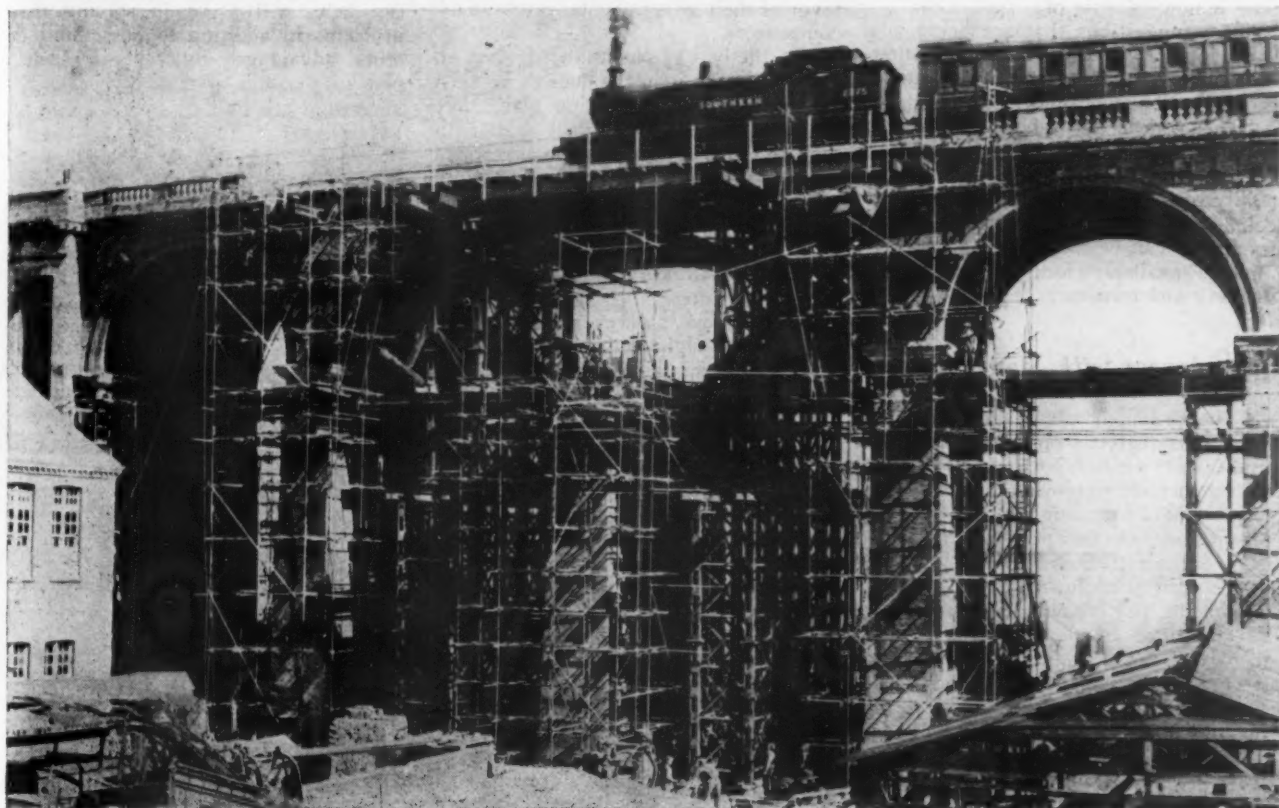
This Viaduct, Damaged by a Bomb, Was Reopened to Traffic by Spanning the Gap with a Rolled Steel Beam Deck Supported on War Office Trestles Erected Each Side of the Destroyed Pier

A joint research conducted by the staff of the Government Building Research Station of the Department of Scientific and Industrial Research, and the staff of the L. M. S. Research Department, has given valuable data on the actual loads passed to the ties by the rails and the "chairs" in which these rails rest, and on the distribution of these loads from the ties to the ballast. The writer would refer those interested in the detailed results of this research to papers read before the Institute of Civil Engineers. The track under test on the L. M. S. main line was regularly operated over at speeds up to 70 m.p.h.

While the track has stood up to the war-time traffic very successfully, it cannot be denied that a considerable amount of deferred maintenance has accumulated, which will require some time to make good. Railway engineers anticipate considerable difficulty when demands will be made for pre-war speeds before the track is in pre-war condition.

To sum up, it seems fair to say that Britain's railways have come through the ordeal with credit to themselves and to the staff employed. The arrangements made for dealing with emergency repairs have, on the whole, worked well, although the incidence of damage was different from that anticipated. It was found that unnecessarily large provisions had been made for track renewals due to bombing, and all of the lines had adequate bridge repair material available at all times.

Since September, 1939, the British railways have passed triumphantly through a very hard school.



C. of N. J. Proposes Profit Sharing

Believes such a plan would identify interests of its employees with those of company to their mutual benefit

THE management of the Central of New Jersey has announced that it has presented to the principal labor organizations representing its employees a proposal that a profit-sharing plan be agreed upon between the management and these organizations. Chief Executive Officer William Wyer, in disclosing that this proposal is under discussion, says that "no details" of such a plan have been suggested, but that the idea has been broached to the organizations "as a part of the railroad's continuing program to enlist the 100 per cent cooperation of all employees in restoring the Jersey Central to a condition of prosperity and in better serving the public." Continuing, he said:

"While the problems of wartime and of simultaneously working to put this railroad back on its feet have been occupying our immediate energies, such a profit-sharing plan has been our long-range idea and we have decided to propose it now because of:

"The suggestions that are being advanced in governmental, labor and other quarters that unions, like management, should have responsibilities; and

"The widespread labor unrest and growing demands for wages and reduction of working hours beyond the ability of many businesses to pay, meet competition and still survive, unless some way can be found to increase the amount available for distribution to workers and owners.

Employees with Management

"The principal advantage of profit-sharing is that it would transform the traditional position of employees vs. management to employees *with* management. Obviously, under the present set-up, one of the principal aims of labor organizations is to obtain as much as they can, while management must be careful to pay no more than it can afford, since to do otherwise would jeopardize the existence of the business. No one knows exactly where the line is—and under a profit-sharing plan, the employees automatically would be guaranteed the maximum proportionate share of the earnings consistent with continued operation of the business, and would have every inducement to do their

best for the company's welfare, since they would benefit in direct proportion to their efforts.

"Among the numerous other advantages that we can see are that such a plan would:

"Operate in favor of steady employment, with less seasonal fluctuation, and with fewer jobs subject to discontinuance in times of depression;

"Allay suspicion by showing labor, through consultation, what really goes on in the management of a business;

"Strengthen the credit of the company, and insure the gradual reduction of debt and interest charges, thus enabling the company better to raise money needed to equip itself to compete successfully with other forms of transportation; and

"Utilize more directly the political power of our organized employees, to help bring about less legislative discrimination against the railroads and in favor of their governmentally-subsidized competitors.

"To the best of our knowledge, on no railroad in the industry does there exist a full-fledged profit-sharing plan. We realize that, as a practical matter, it may be difficult to obtain the agreement of the 18 individual organizations with which we have collective bargaining contracts to join us in such a plan, just as it is difficult to obtain the agreement of any substantial number of people on almost anything.

"We believe, however, that profit-sharing is right in principle; that, through participation in the many plans now under way for improving our financial situation, it will ultimately produce a level of wages that could not otherwise be secured; and that all railroad labor organizations will join us in working out an acceptable plan if the leading ones will first agree. Admittedly there would be many problems in drafting and inaugurating such a plan, but we are willing and anxious to make the experiment in the thought that it offers everyone so many advantages that they will much more than balance the problems which such a plan would create."

The Jersey Central management, as was reported in *Railway Age* of September 22, page 479, is presenting both management and union viewpoints on

current wage increase demands to its employees through the pages of its employee publication, "The Coupler." Further along the line of promoting better employee understanding of company problems and more harmonious relations, Mr. Wyer says that "we have been attempting to settle labor differences on the property through negotiations with local union representatives, instead of allowing these disputes to go to national tribunals for decision, and have taken a number of other steps to better employee relations, "including supervisory training courses and inauguration of a magazine and a suggestion plan, both of the latter under joint labor-management administration." He outlined some of the difficulties of the property, which the management is endeavoring to solve, as follows:

"Litigation of New Jersey's back-tax claims and unduly high property tax assessments;

"Efforts to transfer our Pennsylvania operations to a subsidiary, to save the \$500,000 to \$1,200,000 we lose annually through New Jersey franchise taxes which confiscate profits earned in Pennsylvania simply because the preponderance of Jersey Central trackage is located in the State of New Jersey;

"Study of the passenger situation, with a view toward early action looking to improvement both in service and financial results;

"Modernization of equipment;

"Abandonments of unprofitable operations; and

"Appeal to the Interstate Commerce Commission for compensatory lighterage and carfloatage allowances.

"We believe that there is considerable hope for the future of the Jersey Central if these projects can be successfully concluded, and we believe that a profit-sharing plan, utilizing full union and employee cooperation in the many ways that genuinely interested partners can help, will assist in solving these problems in addition to possessing the other advantages inherent in such a plan."

* * * *

Thumbs Up... ON FIRE PREVENTION
THE CONTROL OF COMMON HAZARDS WILL TEND TO PREVENT FIRE LOSSES
MOST FIRES ARE PREVENTABLE
CARE AND ATTENTION TO CONTROLLABLE HAZARDS WILL BRING RESULTS

NATIONAL FIRE PREVENTION WEEK
OCTOBER 2-12, 1945

Thumbs Down ON FIRE LOSSES
THE HAZARDS TO CONTROL INCLUDE THOSE OF
SMOKING and MATCHES
GASOLINE and OIL HANDLING
COAL, ASHES and SPARKS
ELECTRIC LIGHT and POWER DEFECTS
HOUSEKEEPING and MAINTENANCE
CARELESSNESS and INDIFFERENCE

TRANSPORTATION MUTUAL INSURANCE COMPANY
PHILADELPHIA
FIRE PREVENTION AND FIRE PROTECTION BRANCH

Fire Prevention Week Poster, Distributed to Member Railroads by the Transportation Mutual Insurance Company, Philadelphia

Protests a Senate Hearing Record —a Communication

TO THE EDITOR:

PITTSBURGH, PA.

Under the auspices of a special committee of the United States Senate, there has been conducted over recent months a series of hearings ostensibly "to study and survey problems of small business enterprises." These hearings are pursuant to Senate Resolution 28 of the 79th Congress. Part 50 of the testimony taken by the committee is entitled "Future of Light Metals with Particular Reference to the Interests of Small Business."¹

In this document on pages 6338-51, inclusive, Brig. Gen. Charles D. Young, Deputy Director, Office of Defense Transportation, and former vice-president of the Pennsylvania, presents his views with respect to the future of aluminum and magnesium in the transportation industries. The General's testimony will prove of deep interest, if not concern, to all who are associated with transportation and the development of new and improved materials for the modernization of various types of equipment employed therein.

Leaving consideration of General Young's testimony bearing upon the types of material likely to be used in structures for highway and waterway transportation to those more directly interested, the writer will draw attention to the portions which relate to railroad equipment only.

Considering the testimony in the order presented, we come first to the following on page 6340:

"General Young.—The greatest opportunity for a large increase in the utilization of lightweight metals is in rail transportation, particularly in the construction of freight cars.

"Senator Wherry.—It is not only a matter of design, but of price, too, is it not?

"General Young.—But your design depends on the price. The designer designs around his market in the use of the materials.

"Senator Wherry.—Before we expect light metals to compete with heavier metals, we must get the cost somewhere so that it will be economically justified.

"General Young.—That is right. The designer is confronted with an economic situation and in the use of materials with which he will design he is governed by what you have to pay for it, otherwise you will get a different designer."

It could be gathered from the General's remarks above and certain of his later comments that the differences in various structural materials are to be reconciled by the engineers employing them and that those who cannot accomplish this by ingenious design will be dispensed with in favor of those who can; this without regard, evidently, for the ratio of costs to

Writer points out inaccuracies in the testimony on the future of light metals, before the Special Committee to Study Problems of American Small Business of the U. S. Senate, pertaining to the comparison of materials of lightweight freight-car construction

strength and other essential properties possessed by the different competing materials. This interpretation seems to be supported by a statement at the foot of page 6346 to the effect that diners ordered by the Pennsylvania Railroad of stainless steel, aluminum, and low-alloy high-strength steel, respectively, were of almost identical weight and cost "showing that a good deal of attention had been given to the invitation of the bid."

The Corrosion Fallacy

The General proceeds: "Such cars, when built of steel, are subject to corrosion; especially is this true of coal-carrying equipment, as the properties of steel are such that the body deteriorates due to the action of sulphur in the coal—in the form of sulphuric acid—upon the steel. Preliminary investigations have indicated, however, that aluminum is highly resistant to such reaction, practically eliminating loss from this source."

In the above remarks the General voices a fallacy prevalent in railroad circles that the deterioration of coal cars results mainly from corrosion due to the action of the sulphur in the coal. That this is not true is an open book to those who have made a study of the service life of steel car equipment and can be proved in several ways:

First, the average time that a hopper car is under load during each of its round trips is 6¼ days², whereas it has been determined that a period of at least 30 days under load is required to impart a corrosive character of the type cited by the General to the leechings from coal.³ Thus, the coal would need to be stored in the equipment for at least 30 days before damage from such leechings would commence.

² Freight Traffic Report, Section of Transportation Service, "Federal Coordinator of Transportation," Vol. 1, page 88.

³ "Corrosion of Steel Cars by Coal," by Schramm, Taylorson, and Larrabee, *Railway Age*, November 28, 1936.

Second, the concentrated leechings from high sulphur coal are extremely damaging to all types of steel. A matter of months only is required to pierce holes through sheets of coal cars when the contact type of corrosion resulting from concentrated leechings is encountered. It is this unusual form of corrosion to which the General's statement regarding sulphuric acid attack relates. *If this were a common condition in coal transportation, the service life of 10 to 11 years and of 14 to 15 years obtained from ordinary steel and copper-bearing steel sheets, respectively, would be impossible.*

Third, the analysis of the corrosion products removed from the sheets of hopper coal cars after widely different periods of service indicates that the main corrosion attack has resulted from atmospheric agents. It is only when coal cars are used as storage bins rather than in normal transportation that the effects referred to by the General are encountered.⁴

After stating at the top of page 6342 that "the greatest opportunity for the increased use of aluminum—and perhaps magnesium—seems to be in cars of the gondola and hopper class," the General continues midway down the page: "A discussion of the possible use of aluminum and aluminum alloys in the hopper type of car, where the outlook seems quite favorable, may interest the committee. I have already indicated the advantage of the use of aluminum sheets as against steel in coal-carrying equipment, because aluminum deteriorates less from the action of sulphur in the coal. I now want to speak briefly of differences in weight. The 70-ton hopper car, which is used largely for the transportation of products of the mines, will require for comparable parts in its construction 11,000 lb. of aluminum as compared with 25,000 lb. of low-carbon steel; that is, low-carbon, high-tensile steel." (Corrosion-resistant, high-strength steel).

Weight and Price Comparisons

Where the General obtained the figures quoted above for his comparison of the quantities of aluminum and high-strength steel required in the design of a modern 70-ton hopper car built of these materials, respectively, is not known, but that they are erroneous can be shown from a comparison based upon cars designed of this type for the Missouri Pacific. These cars were to weigh approximately 38,000 lb. in aluminum, with standard trucks and copper-bearing steel center sills and bolsters, and were to carry their full load limit on the axles, figuring coal at 54 lb. per cu. ft. In

⁴ "The Lightweight Development for Whom and What," by F. D. Foote, *Railway Age*, August 2, 1941, and "Properties of High-Strength Steels," by F. D. Foote, *Railway Age*, June 16 and 23, 1945.

¹ Government Printing Office Document No. 68053, Part 50.

all, approximately 9,000 lb. of aluminum (not including scrap loss) were to be used. A car of identical specifications, using corrosion-resistant, high-strength steel where aluminum was used in the subject cars, would employ approximately 13,500 lb. of steel (also without scrap loss). All specialties would be the same in both cases.

The excess cost of the aluminum alloys over the corrosion-resistant high-strength steel would be approximately \$2,000 per car for the materials alone:

9,000 lb. aluminum at 28 cents per lb.	\$2,520
13,500 lb. corrosion-resistant, high-strength steel at 4 cents per lb.	540
	\$1,980

The difference in the payload capacity of the two cars would be $2\frac{1}{4}$ tons in favor of the aluminum car. Thus, this slight difference in light weight and carrying capacity would be secured at a cost of \$900 per ton, or $4\frac{1}{2}$ times the figure of \$200 per ton fixed by K. F. Nystrom, chief mechanical officer, Chicago, Milwaukee, St. Paul & Pacific, as justified per ton of weight saved in cars operated on his road.

But using the figures quoted in the General's comparison of 11,000 lb. of aluminum alloys and 25,000 lb. of corrosion-resistant, high-strength steel, the excess in cost of the aluminum over steel would still be approximately the \$2,000 per car mentioned, although the comparison presents a false picture of the relative weights and carrying capacity of the two cars.

11,000 lb. aluminum at 28 cents per lb.	\$3,080
25,000 lb. corrosion-resistant, high-strength steel at 4 cents per lb.	1,000
	\$2,080

The prices used for the cost of aluminum alloys (28 cents per lb.) and corrosion-resistant, high-strength steel (4 cents per lb.) may now be examined in view of the testimony presented. Taking up the question of the postwar price relationship of aluminum and steel, the General states, also on page 6342, that: "The post-war prices per pound of aluminum and steel are yet to be determined; but, if it be assumed that the cost of aluminum can be held at about the present figure and that steel sells at its pre-war level, the difference between the costs of the two types of materials will not be great. Price alone will, therefore, not be an almost insuperable barrier to the use of the lighter-weight alloys, as it once was. Hopper cars of high-tensile, low-alloy steel and of aluminum alloys will, no doubt, be built in quantities greater than before the war."

Statement of Costs Misleading

The above statement with respect to aluminum costs is misleading. The average price of aluminum, as produced in the United States and as shown in the table presented on page 6349, ranged from 23 cents per lb. in 1928 down to 18 cents in 1940. These average prices include all products from plain ingots to finished sheets. However, the average price quoted lately by the producers of aluminum to the Car Construction Committee of the Association of American Railroads was 28 cents per pound for the products required to build railroad freight and passenger cars. This cost of

finished products is based upon an ingot price of about 15 cents per pound. A comparable average price for similar products in corrosion-resistant, high-strength steel is \$65 per ton at present, or $3\frac{1}{4}$ cents per lb., rounded out to 4 cents per lb. for the purpose of the above comparison.

Considering these per pound costs for the two materials and the useful properties each provides, no designing engineer, however ingenious, could avoid a substantial penalty in the unit cost of the resulting structures when built of aluminum and at the same time maintain comparable strength and service requirements. The question is whether this additional cost can be justified.

Later in his statement to the Senate Committee, the General detracts heavily from his previous testimony so favorable to the adoption of aluminum in place of steel in railroad freight cars. He states in the second paragraph on page 6343; "A disadvantage of the aluminum car, particularly in handling rough products of the mines, is that aluminum sheets are not now as resistant to blows and abrasion as steel. This may in some instances be a major disadvantage. Final determination, however, as between the steel and aluminum body for this type of car will be rested largely upon initial cost and, to a lesser degree, upon the relative advantages of steel (and) aluminum alloys. It must be recognized that, in any such change from one material to another of such widely different characteristics, the inertia of designers and purchasers, as well as the users, must be recognized, and it will be only after the advantages have been demonstrated over a period of time that such a revolutionary change will take place."

F. D. FOOTE,
President, Alloys Development Company.

Improved Railroad Service

(Continued from page 558)

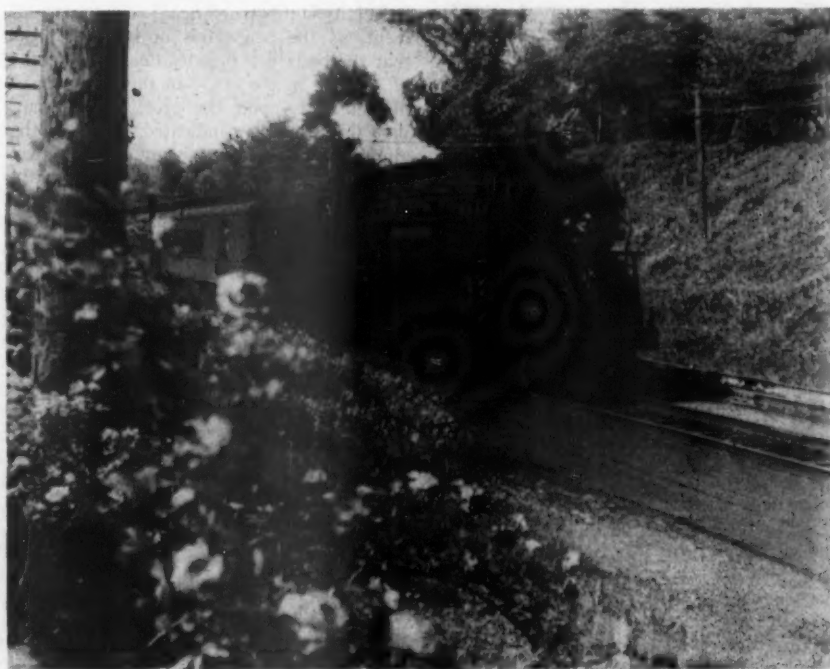
ment, but the emphasis shifts over to an economy of dollars. It seems clear to me that that means if we take on more costs, i.e., both the capital cost of equipment and the operating costs that are incidental to using three cars to do the work of two, someone must dig up that extra money. The user of railroad transportation, in the final analysis, must bear the costs of financially sound and properly managed railroads.

Problems Not Insoluble

I have endeavored to compare very briefly the results of railway operation during World Wars I and II and to focus attention upon the differences in the political and economic situation of the railroads at the end of those two periods. I have also endeavored to call attention to some of the problems facing the railroads in the postwar period. I have not intended that the picture of present-day problems confronting the railroads be pessimistic. Out of all the consideration which must be given post-war transportation, I am confident there will come constructive action in the public interest.

I anticipate a great upsurge in business and a period of relative prosperity following the reconversion period we now are in. Given equal opportunity under friendly and constructive transportation policies, I am confident the railroads will continue their fine record of service and will deserve to the utmost the confidence and good will of the public which they enjoy today.

* * *



Coming into the Station at Haworth, N. J., on the West Shore Division of the New York Central

GENERAL NEWS

Heaviest Troop Travel Still Confronts RRs.

Organized movements in prospect will average about 1 1/4 million men a month

Railroads still have to handle the heaviest concentrated passenger load of the entire war in getting military personnel back home, according to troop-movement plans revealed by Colonel E. C. R. Lasher, New York Zone transportation officer, Army Transportation Corps, in the course of an October 3 broadcast over Radio Station WOR, New York. In the same broadcast and another on the same evening over Station WNYC, New York, railroad and shipper spokesmen looked ahead to improved service and facilities which they predicted will result from railroad research and planning.

1 1/4 Million a Month—Colonel Lasher said that during the next six months the railroads will be called upon to carry in organized movements alone about a million and a quarter men a month. Approximately 1,800,000 troops returning from Europe and other inactive Atlantic theaters will come into Eastern ports, he added, and about half of them will be handled through New York. While this is going on, he pointed out, 400,000 German and Italian prisoners of war in the United States will be shipped back to Europe, the Germans being handled through New York and Boston, Mass., and the Italians through Hampton Roads, Va.

According to Joseph A. Quinlan, president of the Atlantic States Shippers Advisory Board, export freight through the port of New York during the next six months will continue brisk, although it will be less than it was in 1944. Mr. Quinlan predicted that export and coastal traffic through this port will run between 800 and 1,000 cars a day, or about two-thirds as many as the average for last year.

More Passenger Cars—Warren C. Kendall, chairman of the Car Service Division, Association of American Railroads, gave assurance that the railroads will be able to handle the tremendous military movement yet to be done. In getting ready for post-war travel, he said, the railroads now have on order about 1,200 new passenger coaches, most of which are expected to be delivered next year. "All of them will feature smart, spacious comfort, and will be more modern in design and materials," he added.

John M. Fitzgerald, vice-chairman of the Eastern Railroad Presidents Conference, declared that "progress in railroads and

railroading will continue at an accelerated pace, and every part of the railroad plant and its operations will be improved." The railroads now have the choice of several types of motive power, he stated, and each of these types will forge ahead in the future. There is a promising development in steam-turbine and gas-turbine locomotives, he said, and "they are even talking about a locomotive using the power of atomic energy."

Other Betterments Foreseen—R. W. Brown, president of the Reading, said that the passenger cars of the future will include new room arrangements, more attractive decorations, better seating, better lighting and better ventilation. "I think it is safe to say that all coaches in regular through service will be air-conditioned as soon as conditions permit," Mr. Brown continued, "and they will have new heating, lighting, baggage storing and wash room arrangements which will make them more comfortable and convenient than they are now."

Clare J. Goodyear, president of the National Association of Shippers Advisory Boards, stated that tomorrow's freight cars will be so designed and built that "they will be able to do a greater amount of transportation work and do it better." There will also be improvements in such other parts of the railroad plants as tracks, signals and communications, he said, and railroad terminals and offices will undergo changes for the better.

The broadcasts were conducted by Albert R. Beatty of the A. A. R. Public Relations Department. In closing the programs, Mr. Beatty said that the railroads—with a wartime performance proving they are "alert to their obligations and their opportunities," are now "keenly aware" of the problems which will confront them in the post-war period, and are "on their toes, so to speak, looking ahead to the future."

1944 Loss and Damage Payments

Freight loss and damage payments made by the railroads of the United States and Canada in 1944 totaled \$59,756,336, an increase of 42.1 per cent over the preceding year, according to Lewis Pilcher, secretary of the Freight Claim Division of the Association of American Railroads. Claim payments by American roads last year amounted to 0.82 per cent of the gross freight revenue as compared with 0.59 per cent in 1943, while those of Canadian roads were 0.36 per cent of the revenue, the same ratio as in 1943.

"For many years," Mr. Pilcher said, "the railroads have waged war on freight loss and damage. As a result of better methods of packing, loading and handling of shipments, freight claims paid in 1944 were only about half what they were in 1920, although the railroads performed nearly double the freight service that they did 25 years ago."

N. E. Shippers Hear Future Not Fearsome

United Fruit head tells group of "significant promise" in educational facilities

William K. Jackson, vice-president, general counsel and a director of the United Fruit Company, and president of the Boston Chamber of Commerce, told more than 600 members of the New England Shipper's Advisory Board at its September 28 meeting in Boston that, while New England is entering a period of "perhaps the most intense economic competition in history," its future outlook is not "quite so fearsome as might be inferred from some recent rather dismal prophecies of its well-wishers."

One of New England's principal advantages, as Mr. Jackson sees it, is that "a large number of its labor leaders and business managers are imbued with a high sense of responsibility, reason and intelligence in dealing with one another," a reason he suggests for the "fewer disastrous strikes than other large industrial areas."

Other factors in New England's favor is its "proximity to the world's largest and richest producing and marketing area, the northern and eastern section of the United States." And, he declares, despite economic upheavals brought about by the war, that "it is this section which has the largest and best opportunities for economic prosperity, high incomes and good living."

Through its ports and airways, New England is accessible also to the world's richest markets, Europe and Latin America, and added Mr. Jackson, "our over-land and ocean transportation offer us a competitive share in the rest of the world's markets, however great they may become."

The speaker sees "significant promise" in New England's educational facilities. Declaring that "we have not sufficiently utilized this enormous asset right at our doorsteps," in the development of management skill, "our educational facilities can and should play a leading, vital part." An unrivaled combination, he suggests, is "educators and business managers working together for New England's economic welfare."

Pointing to the cooperation of shippers and carriers throughout the war, Mr. Jackson reminded both groups that if each will "voluntarily assume leadership in a joint effort to assure our manufacturers of the best possible transportation service, you will be making a substantial contribution toward the upbuilding of industrial New England as well as helping yourselves."

F. J. Gill, general secretary of the Advi-

(Continued on page 571)

8 Months Net Income Was \$445,000,000

Net railway operating income
for the same period was
\$722,678,154

Class I railroads in the first eight months of this year had an estimated net income, after interest and rentals, of \$445,000,000, as compared with \$447,205,277 in the corresponding period of 1944, according to the Bureau of Railway Economics of the Association of American Railroads. The eight-months net railway operating income, before interest and rentals, was \$722,678,154, compared with \$753,656,408 in the same period last year.

August's estimated net income was \$51,000,000, compared with \$60,346,451 in August, 1944; while the net railway operating income for that month was \$86,683,195, compared with \$101,485,622 in August, 1944. In the 12 months ended with August, the rate of return averaged 3.84 per cent, compared with 4.13 per cent in the 12 months ended August 31, 1944.

Drop in August Gross.—Operating revenues for August totaled \$755,218,186 compared with \$836,183,413 in August, 1944, while operating expenses totaled \$557,263,363 compared with \$538,488,861. Gross in the first eight months totaled \$6,251,217,314 compared with \$6,281,293,192 in the same period of 1944, a decrease of 0.5 per cent. Operating expenses in the eight months amounted to \$4,292,026,125 compared with \$4,141,323,456, an increase of 3.6 per cent.

Class I roads in the eight months paid \$1,109,797,303 in taxes compared with \$1,250,638,219 in the same period in 1944. For August alone, the tax bill amounted to \$106,603,845, a decrease of \$70,798,565 or 39.9 per cent under August, 1944. Sixteen Class I roads failed to earn interest and rentals in the eight months, of which ten were in the Eastern district, one in the Southern region, and five in the Western district.

In East and South.—Class I roads in the Eastern district in the eight months had an estimated net income of \$176,000,000 compared with \$195,744,305 in the same period of 1944. For August alone, their estimated net income was \$19,000,000 compared with \$26,405,812 in August, 1944. Those same roads in the eight months had a net railway operating income of \$297,431,124 compared with \$325,161,974 in the same period of 1944. Their net railway operating income in August amounted to \$33,649,489 compared with \$42,680,467 in August, 1944.

The eight months gross in the Eastern district was \$2,639,907,465, a decrease of 4.1 per cent compared with the same period of 1944, while operating expenses totaled \$1,948,138,108, an increase of 1.7 per cent.

Class I roads in the Southern region in the eight months had an estimated net income of \$61,000,000 compared with \$72,885,639 in the same period of 1944. For August alone, they had an estimated net income of \$4,700,000 compared with \$7,-

559,534 in August, 1944. Those same roads in the eight months had a net railway operating income of \$101,646,930 compared with \$114,826,578 in the same period of 1944. Their net railway operating income in August amounted to \$10,192,371 compared with \$13,347,624 in August, 1944.

Operating revenues in the Southern region in the first months totaled \$871,837,251, a decrease of 2.5 per cent compared with the same period of 1944, while operating expenses totaled \$577,791,631 or an increase of 4.5 per cent.

Net Holds Up in West.—Class I roads in the Western district in the eight months had an estimated net income of \$208,000,000 compared with \$178,575,333 in the same period of 1944. For August, alone they had an estimated net income of \$27,600,000 compared with \$26,381,105 in August, 1944. Those same roads in the eight months had a net railway operating income of \$323,600,100 compared with \$313,667,856 in the same period of 1944. Their net railway operating income in August amounted to \$42,841,335 compared with \$45,457,531 in August, 1944.

Gross in the Western district in the eight months totaled \$2,739,472,598, an increase of 4 per cent compared with the same period of 1944, while operating expenses totaled \$1,766,096,386, an increase of 5.6 per cent above 1944.

CLASS I RAILROADS—UNITED STATES

	Month of August 1945	1944
Total operating revenues	\$755,218,186	\$836,183,413
Total operating expenses	557,263,363	538,488,861
Operating ratio— per cent	73.79	64.40
Taxes	106,603,845	177,402,410
Net railway operating income (Earnings before charges)	86,683,195	101,485,622
Net income, after charges (estimated)	51,300,000	60,346,451
Eight Months Ended August 31, 1945		
Total operating revenues	\$6,251,217,314	\$6,281,293,192
Total operating expenses	4,292,026,125	4,141,323,456
Operating ratio— per cent	68.66	65.93
Taxes	1,109,797,303	1,250,638,219
Net railway operating income (Earnings before charges)	722,678,154	753,656,408
Net income, after charges (estimated)	445,000,000	447,205,277

August Truck Traffic

Motor carriers reporting to American Trucking Associations, Inc., transported in August 1,758,271 tons of freight, an increase of 0.8 per cent above the 1,744,674 tons transported in July but a decrease of 6.4 per cent below August, 1944's total of 1,877,775. The A. T. A. index, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 171.58 for August as compared with July's 175.91.

The foregoing figures, according to the A. T. A. statement, are based on reports from 222 truckers in 42 states. Truckers in the Eastern district reported tonnage decreases of 1.9 per cent below July and 9.7 per cent below August, 1944. In the Southern region there was an increase of 7.9 per cent above July, but a decrease of 3.8 per cent below August, 1944. August tonnage in the Western district was up 3.9 per cent from July and 1.1 per cent from August, 1944.

Better-Service Plans Will Need Financing

Pelley stresses necessity for
conditions which inspire
confidence of investors

While the railroads are hard at work on the war job they still have to finish, they are at the same time "looking ahead and working toward the improvements in plant and equipment which will make possible the better service of the future," according to a statement issued by J. J. Pelley, president of the Association of American Railroads, following the September 28 Washington meeting of the A. A. R. board of directors—their first session since the close of hostilities. While noting how railroad research activities are laying the groundwork for future improvements, Mr. Pelley emphasized that such plans can be consummated only if private investment funds are attracted to the industry.

How Get New Capital?—As he put it, the railroads will need continuance in the future of that investment of private capital "which in the past has been so fruitful of better service at lower cost." Thus the A. A. R. president went on to call for equal treatment of competing agencies of transport. "Under such a policy," he said, "traffic would normally flow to the means of transport which could offer the most satisfactory service at the lowest cost. Under such conditions, the country could be assured of the continuance of the investment of private capital necessary to supply the sort of efficient rail transportation which, as the war has so strikingly demonstrated, is a national necessity now and in the future." The remainder of the statement follows:

"Three facts which are fundamental in assessing the future of the railroads were clearly brought out in the test of war. The war demonstrated how essential railroads are to this nation, the remarkable technological progress of the railroads, and the importance of investment in railroads in providing better transportation at lower real cost.

"The first of these facts will remain valid in peacetime as in war. There is nothing in existence, or in sight, to take the place of trains of cars on tracks in transporting the vast volume of American commerce at rates which now, and for some years past, have averaged less than one cent for hauling a ton of freight a mile.

Better Rail.—The technological progress demonstrated by results during the war will continue in peacetime at an accelerated rate. Much of this progress will not be conspicuous, for that is the way with most changes in railroading. To the naked eye, for example, steel rail rolled today looks about the same as ever, but, as a result of research, it actually has a rate of breakage per year of service only about one-fifth as high as that of rail rolled only fifteen years ago. And that is but one detail in the composite picture of progress which enabled the railroads, in this war, to do twice as much work per day with nearly

one-third less equipment, and to do it immeasurably better than during the first World War.

"The research which made such results possible is going ahead today on a broader front than ever before. Individual railroads, the companies which supply the railroads with equipment and materials, and the technical divisions and study committees of the Association of American Railroads, all are engaged in the search for better ways to carry on the railroad business.

"The third fact strikingly demonstrated by the war is that no amount of ingenuity and invention would have been enough to do the job without the investment of vast sums in better railroads. Between the two wars, considerably more than ten billion dollars of railroad money was spent for additions and betterments to plant and equipment. In that period, the average railroad investment went up from about \$10,000 to \$20,000 per man employed. Largely because of the better 'tools' provided by this doubled investment per worker, the men themselves received an average hourly wage double that of the first World War; the nation received better service at freight rates no higher now than they were before the recent war; and the federal government received an average of nearly \$4,000,000 a day in railroad taxes, in contrast to a deficit of nearly \$2,000,000 a day resulting from federal operation of railroads during the first World War.

Improved Cars—Railroads are going ahead with their plans for further improvements in the alignment and structure of track, in signals and communications, in yards and terminals, in shops and offices, in operating methods, in every phase of the business. The changes most likely to attract attention, however, are those in locomotives and cars. There are now on order about 1,200 new passenger coaches. These new cars, most of which are expected to be delivered in 1946, will feature smart, spacious comfort. They will embody desirable changes in design and materials suggested by pre-war experience with earlier streamlined cars, by the experimental service of new types of sleeping cars and coaches built just before the war, and by direct personal checking of the preferences of passengers and prospective passengers.

"Trains will be pulled not only by the newer types of power, such as electric and Diesel locomotives, but also by improved steam locomotives, including both new designs of reciprocating engines and others driven by turbines. Just as the 1945 railroad is a machine very different from that of 1920, as is evidenced by its performance record, so the railroad of tomorrow will be different from that of today.

"It is possible to say with assurance, therefore, that the railroad will continue to play its indispensable part in meeting the transportation needs of this country, and that railroads will continue to be improved through enlarged and accelerated research and invention, provided only that the investment which in the past has been so fruitful of better service at lower cost can be continued in the future.

"The question of the future volume of rail traffic is important. The total production and exchange of goods in the country is

A.A.R. Advertising Account to Benton & Bowles

Assignment of the advertising account of the Association of American Railroads to Benton & Bowles, Inc., New York, effective January 1, 1946, was announced on October 1 by Robert S. Henry, assistant to the president of the A. A. R. The assignment came upon the withdrawal of Arthur Kudner, Inc., which has been handling the account for the past nine years.

expected to show a decline in the next few months, to be followed, it is hoped, by the upturn which should result from more complete reconversion to the ways of peace. Railroads are vitally concerned both with the total traffic to be transported and with the conditions under which they will compete for their share, for successful railroad depends upon volume traffic.

Method of Financing—"This is true of railroads even more than of most other forms of business, because so large a part of railroad investment, approximately three-fourths of the whole, is in fixed roadways. Relatively large investment in fixed ways, in fact, is characteristic of all forms of advanced transport. The primitive pack-mule needed no prepared roadway, but trucks and trains do. The primitive canoe could thread streams in a state of nature, but the modern tow-boat and barge require costly improved channels. The barnstorming plane could use a cow pasture for an airport, but the modern airliner calls for

airports and airways. All these improvements call for heavy investment by some one. In the case of the railroads, they themselves provide their roadways out of their own resources, maintain these ways themselves, and pay taxes on them which are not spent for the special benefit of railroads but for the support of the general work and services of government.

"This difference in situation as to investment and taxation is the more important because of its effect upon the distribution and division of traffic as between railroads and other forms of transport. Most commercial traffic is exceedingly sensitive to price considerations. The transportation agency which must meet all its own costs and pay real taxes besides, and must cover those costs in its rates, is at a distinct competitive disadvantage with one which can shift very real portions of its costs, wholly or in part, from those who use the service to those who pay general taxes.

"The railroads are self-supporting, tax-paying business enterprises. To put all commercial transportation upon this same footing would require no more than the payment of reasonable user charges by those who use the roadways, waterways and airways, created and maintained largely by public funds, for the purpose of carrying on the business of transportation."

Government Traffic—Colonel J. Monroe Johnson, director of the Office of Defense Transportation, made his usual appearance at the directors' meeting, and stated upon leaving that he had spoken briefly in commendation of the railroads for their efficient handling of the current traffic. With respect to troop movements



Mother of 5 Servicemen Christens Troop Sleeper

Mrs. Louise Wolf, of Hammond, Ind., whose sons still are serving overseas, does the honors at the Hammond plant of the Pullman-Standard Car Mfg. Co., as the first car of the second order for 1,200 three-tier troop sleepers is completed. From left to right are: Capt. Lawrence E. Bigler, plant liaison officer of the Chicago procurement office, B. J. Trautman, Pullman-Standard Works manager, and Miss Pauline Bubonovich, Mrs. Wolf's attendant.

the O. D. T. director said that the volume is greatly in excess of the estimates made a few weeks ago. He added that the railroads, O. D. T. and the War and Navy departments would hold a meeting to re-appraise the situation and to determine whether it calls for any further O. D. T. action to insure an adequate supply of equipment.

In the same connection, an A. A. R. spokesman explained that one reason for the excess of troop movements over the estimates was the large number returning from the Pacific area. These generally require much longer hauls in this country than are necessary with respect to arrivals at Atlantic ports. It was also stated that the directors heard reports on the status of the pending anti-trust suit against the A. A. R. and western railroads.

Women Travel Representatives Ride the "Empire State"

With continued thought to making train travel more enjoyable to passengers, the New York Central has introduced on the daily runs of the "Empire State Express," between New York and Buffalo, four young women passenger representatives who will provide a new courtesy type service to the traveler.

Chosen "for their proven ability and courtesy in previous positions in dealing with the public during the past trying war years," four trim and attractive representatives, alternating singly on both the daily eastbound and westbound runs of the train, will be on hand to answer questions about history, hotels, resorts, travel connections, "even to recent books," announces E. E. Pierce, general passenger agent of the System.

The Empire State Express is the first of the New York Central trains to receive



Miss O'Hara Discussing New York State Resorts with an "Empire" Traveler

the new service, "because it is a favorite train of families traveling together and of tourists who wish to travel through the historic and picturesque Hudson and Mohawk valleys," Mr. Pierce explained.

For two weeks, the young women have visited cities along the route of the "Empire" to gain first-hand answers to questions which they probably will be asked. Their train uniforms consist of a dark blue suit, and a white blouse, with small blue hats, bearing a colored insignia of driving wheels and a locomotive connecting rod.

The four passenger representatives, all of New York City, include, Dorothy Boulden, who was a clerk, secretary and passenger agent successively in the passenger traffic department; Virginia McNamara, Una O'Hara and Mrs. Sally McIntosh, who have served as ticket sellers in Grand Central terminal.



E. E. Pierce, General Passenger Agent, Reminds the Women Passenger Representatives to Be Mindful of the 1941 Timetable, Their Principal Handbook of Information. From Left to Right: Miss Boulden, Mrs. McIntosh, Miss O'Hara, Mr. Pierce and Miss McNamara

Col. Love Wins Merit Award

Lieut-Col. Carl D. Love, general superintendent of the Louisville & Nashville, and former commanding officer of the 728th Railway Operating Battalion, has been awarded the Legion of Merit for his outstanding military achievements. The presentation was made by Brig.-Gen. George D. Wahl at Ft. Knox, Ky., in the presence of more than 100 officers and employees of the L. & N., the road which sponsored the battalion.

The citation which accompanied the award commended Col. Love for his "initiative and ingenious planning with which he operated the railroads in the Cherbourg area, overcoming within a short period the discouraging obstacles caused by hostile demolitions."

Col. Love is also the holder of the French Croix de Guerre with Palm, which was awarded him some time ago by the Republic of France.

Erie Officer to Address N. Y. Railroad Club, Oct. 18

Brig. Gen. Paul W. Johnston, vice-president of the Erie, who, during World War II was chief of the railway section of the U. S. Army in Australia, and later was assigned to the staff of General Douglas MacArthur, in charge of procurement, lend-lease and reciprocal lend-lease, will address the New York Railroad Club, at 8 p. m., October 18, in the auditorium, Engineering Societies building, 33 West 39th street, New York. His topic is announced as "Railroading Down Under," and will include a brief history of the railroads in Australia, together with a summary of reasons for and disadvantages resulting from the numerous gages in use. He will discuss also the program for post-war modernization and for gage standardization.

General Johnston entered the army as a colonel, soon after Pearl Harbor. Following three and one-half years of service, during which time he was promoted to brigadier general, he returned to the Erie, and recently was elected vice-president of that system.

3-Man Inspection Party Covers 300 Miles of German Lines

Two members of the 708th Railway Grand Division and a third from Company "A," 722nd Railway Battalion, recently completed a tour of inspection along a 300-mile stretch of German railway lines south from Bremerhaven to Bebra, in U. S. Army of Occupation territory in South Germany. Riding a special motor track inspection car, known as the "Capitol Limited," the army railroaders stopped at every culvert, bridge and overpass, took photographs and made a record of the construction, dimensions, strength and present condition of each point. Such a survey, according to the "Yankee Boomer," Military Railway Service publication, was indicated because complete records of bridges and structures are not handled by the German state railways, but rather by private concerns. In addition, it is reported, the inspection party made a "clear-

ance" survey which is now being used to determine maximum size of loads to be handled over these lines.

The engineering department of the 708th was responsible for the survey, with Maj. John B. Arter, maintenance of way superintendent, and Capt. Herschel O. Hutson, bridge and building superintendent, in charge.

Freight Car Loading

Loadings of revenue freight for the week ended September 29 totaled 832,263 cars, the Association of American Railroads announced on October 4. This was a decrease of 5,030 cars or 0.6 per cent below the preceding week, a decrease of 80,364 cars or 8.8 per cent below the corresponding week last year and a decrease of 78,381 cars or 8.6 per cent below the comparable 1943 week.

Loading of revenue freight for the week ended September 22 totaled 837,293 cars, and the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

Revenue Freight Car Loading			
For the Week Ended Saturday, September 22			
District	1945	1944	1943
Eastern	150,139	164,992	172,313
Allegheny	178,093	195,163	197,043
Pocahontas	53,470	53,636	56,044
Southern	112,852	123,340	116,003
Northwestern	140,363	141,485	152,768
Central Western	139,951	143,171	138,210
Southwestern	62,425	76,096	74,930
Total Western Districts	342,739	360,752	365,908
Total All Roads	837,293	897,883	907,311
Commodities			
Grain and grain products	55,624	49,832	53,214
Live stock	21,728	21,829	23,657
Coal	172,367	174,847	179,814
Coke	12,227	13,720	14,928
Forest products	40,832	44,024	43,684
Ore	72,354	75,567	87,147
Merchandise	107,859	107,714	102,606
Miscellaneous	354,302	410,350	402,261
September 22	837,293	897,883	907,311
September 15	856,105	891,486	902,776
September 8	730,628	825,166	834,670
September 1	860,439	897,603	901,075
August 25	853,426	904,871	904,057

Cumulative Total,
38 Weeks ... 31,164,851 31,833,438 30,887,221

In Canada.—Carloadings for the week ended September 22 totaled 73,395 as compared with 73,717 for the previous week and 74,558 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
Sept. 22, 1945	73,395	32,491
Sept. 23, 1944	74,558	37,919
Cumulative Totals for Canada:		
Sept. 22, 1945	2,616,308	1,358,451
Sept. 23, 1944	2,650,382	1,459,012

Added Honor for P. R. R. Man

Col. Louis G. Jamison, of Jersey City, N. J., former night freight trainmaster of the New York division of the Pennsylvania, and at present general superintendent of the 706th Railway Grand Division, European Theater of Operations, has been awarded the Legion of Merit, according to the "Yankee Boomer," Military Railway Service publication. The citation covers the period from March 12 to May 8 of this year, when Col. Jamison headed railroad supply lines in France, Belgium, Luxembourg and Germany simultaneously.

The award credits him with having "over-

come apparently insurmountable difficulties in coordinating the reconstruction of demolished railways and the movement of military supplies and troops in successfully meeting all railroad requirements of the American Third Army. With three operating battalions under his jurisdiction, he displayed outstanding organizing ability in directing the restoration of railroads, thereby playing an integral part in the final phase of the conquest of Germany."

It was on the recommendation of Gen. George S. Patton, commanding general of the Third Army, that Colonel Jamison recently was awarded the Bronze Star Medal. This was noticed in the *Railway Age* of August 25, page 341.

N. E. Shippers Hear Future Not Fearsome

(Continued from page 567)

sory Board, told the group there will be a decrease of approximately 7 per cent in business in the New England area in the fourth quarter of this year. Of 35 trade committees reporting to him, Mr. Gill said 13 anticipate increases; 13 expect decreases and 9 declined definitely to commit themselves, "due to the inability of firms to control their own business or their inability to anticipate government orders, cut-back or other changes. Such is the case in the forecast of the potato movement. While the committee knows there probably will be a 10 per cent increase in production, whether or not the government will take over again or the potatoes will be allowed to move in accord with the available markets is not known.

Heavy decreases are expected in brass and copper, iron and steel articles, machinery and tools, but there will be increases in materials for the building trade, dairy and poultry products, grains, raw wool and potatoes.

L. M. Ross, who is district manager of the Car Service Division, A.A.R., told the Board New England was short 2,500,000 tons of bituminous coal under last year's total for the first 37 weeks ending September 15. On the Port of Boston situation, Mr. Ross said that in 1942 through this port were handled 24,107 cars of export freight, a "phenomenal record." "In 1943," he said, "we increased that figure by 86 per cent; in 1944 the export had jumped up to 76,357 cars or two and one-half times the 1942 figure. However for the first five months of 1945 we had increased the export over the same period of 1944 by 29 per cent."

Mr. Ross explained that "export traffic from New England is at the present time practically dried up. A small amount is moving with the exception of rations, grain and ordinary supplies for the Army of Occupation and for the occupied territories in Europe. The imports of returned salvaged material are running at approximately 3,000 carloads per month at Boston."

Reporting in behalf of the National Association of Shippers Advisory Boards, C. J. Goodyear, of Philadelphia, national president, told the meeting that "voluntary cooperation—uncoerced—on the part of the shippers and receivers throughout the coun-

try played a major part in assisting the railroads during the war to perform a transportation task which was, at the beginning, looked upon with a great deal of misgiving.

"The railroads are going to need our cooperation in performing the tasks of peace as they needed it in their war-time effort," he stated.

"While the war is over, such a program on the part of the shippers is a patriotic duty only in a lesser degree than in war times, for this country, badly as it needs reconversion from war to peace activity, will need in that process what it has always had—a fully competent, efficiently operated railway system."

Shippers feel that it is now time for the New England railroads to institute a new study to determine whether ways and means cannot be developed to expedite movement of less-than-carload freight, it was stated by A. H. Erlandson, of Sanford, Me., chairman of the L.C.I. committee of the Board. Submitting the annual report of his committee to the group, Mr. Erlandson said, "it is very apparent that if passenger and carload service had deteriorated in the same proportion, that the nation would still be at war. I wish to say that L.C.I. service has shown a marked improvement since the middle of August, but from data compiled I am forced to say that the service has not improved to any marked degree. However, there is a trend towards improvement."

N. P. Grows Own Ties

In order to assure itself of a permanent supply of ties, lumber and other forest products necessary to successful railway operations, the Northern Pacific has established two "tree farms" in western Montana, embracing more than 100,000 acres of timberland. Establishment of a third tree farm is contemplated.

According to J. M. Hughes, land commissioner of the road, the Northern Pacific's annual cross-tie requirements are in excess of 1,250,000 ties, in addition to vast quantities of lumber and other forest products. He explained that although the railway had long obtained ties from its own joint holdings, it was not until recently that selective cutting and reseedling practices were made effective. The Montana tree farms are expected to supply the road's requirements for softwood ties, but it will still be necessary to purchase eastern hardwood ties for use of curves and in other locations where track stresses are high.

C. S. D. Ends Lakes Embargo

The Car Service Division, on September 28, cancelled the general embargo against eastbound carload freight routed via water carriers operating on the Great Lakes at Lake Michigan and Lake Superior ports. This embargo, which was originally made effective on June 12, 1941, was designed to conserve railway equipment by stopping the practice of holding freight in cars at the ports, while awaiting arrival of vessels, a practice which is permitted by tariff authority. The original embargo required permits indicating that warehouse space at the point of transshipment was available before shipments could be accepted by the originating rail carrier. Later, when the

general service lake boats were withdrawn, the embargo was broadened to prohibit the movement of all eastbound freight via the lake ports, except grain and iron ore, which continued to move in volume subject to office of Defense Transportation control.

North Western Opens Modern Lounge

As one of its first post-war contributions to the comfort of women passengers, the Chicago & North Western has opened a new women's lounge in its Chicago passenger terminal. The new lounge shows a definite departure from conventional rooms of this nature by the inclusion of richly-colored fully-upholstered furniture, soft lighting, smart decorative effects and Venetian blinds on the windows.

Covering an area of slightly more than 2,000 sq. ft., the lounge, formerly known as the women's rest room, is located just off the main waiting room of the terminal. Although the floor space has not been changed, the room has been completely remodeled and refurbished.

The marble floor has been covered with a colored asphalt tile which has a sound-deadening effect, at the same time adding color to the room. The walls have been painted a light blue-green blending into a ceiling of the same color, with the addition of gold-leaf friezework. This general decorative scheme sets off to advantage graceful Doric columns supporting the ceiling.

Large windows on the two outside walls have Venetian blinds framed in flowing drapes of wine red color. The window effect was carried over to one of the inside walls where Venetian blinds have been placed over window-size wall niches, behind which artificial light gives a natural window effect.

On one wall is a large modern clock with hour markers and clock hands of mirrored glass. Just below this clock, and blocking the view to the women's washroom, is a large specially-designed screen made entirely of mirrors. The multiple reflections

of the mirrors are of particular advantage.

One of the special features of the room is the furniture. This is made up of completely upholstered chairs, settees and couches, all in a variety of fabrics and colors. Within reach of almost every chair is an end table where women can place their packages or handbags. Large ottomans or foot rests are dispersed about the room as a further inducement for relaxation. At several points are writing desks, while on all the end tables are table lamps to meet the private lighting needs of the patrons. Floor lamps and smoking stands also are placed at strategic spots in the lounge.

The entrance to the lounge is through a vestibule which has been decorated and furnished in keeping with the main lounge. The vestibule contains an upholstered divan, end tables and smoking stands on a colored asphalt tile floor, in the center of which are inlaid the points of the compass. On one wall, set into a lighted recess, is a large natural color mural of a Black Hills scene.

The room was designed by Ralph Haman, engineer of color and design of Pullman-Standard Car Manufacturing Company, while the furniture and decorative effects were designed or manufactured by the Heywood-Wakefield Company of Gardner, Mass. Miss Marie Stoskopf, interior decorator, collaborated with Pullman-Standard and Heywood-Wakefield in their work. Construction and alterations were done by the Chicago contracting firm of G. A. Johnson and Son, under the general direction of B. R. Kulp, chief engineer of the Chicago & North Western.

Deadlock on the T. P. & W.

The troubles on the Toledo, Peoria & Western did not end when this 239-mile line was turned back to its owners at 12:01 a. m. on October 1. As soon as it was turned back, George P. McNear, Jr., stopped operations of the railway, as he had threatened to do late last week, and, simultaneously, the operating brotherhoods declared that a strike existed. Nearly 500

employees immediately began picketing the entire railway.

The real issues behind the closing down of the railroad were befogged and obscured by charges and counter-charges and claims and denials on both sides of the controversy. The strikers, headed by W. C. Keiser of Topeka, Kan., national vice-president of the Brotherhood of Locomotive Firemen & Enginemen, have alleged that Mr. McNear has refused to operate the road under the same working conditions as those which have existed under federal management. Mr. McNear stated that his principal objections to the union's demands were to the one which applies to the hiring of 25 employees who, he charged, engaged in violence during the three-months' strike in 1942, which eventually resulted in taking over the railway by the government on March 22, 1942.

Forecast 4th Quarter Loadings 6.1 Per Cent Under '44

Freight car loadings in the fourth quarter of 1945 are expected to be 6.1 per cent below actual loadings in the same quarter in 1944, according to estimates compiled by the 13 Shippers' Advisory Boards.

On the basis of those estimates, loadings of the 28 principal commodities will be 8,548,720 cars in the fourth quarter, compared with 9,105,017 actual loadings for the same commodities in the corresponding period last year. Three of the 13 boards estimate an increase in loadings for the fourth quarter, but ten estimate decreases.

Shippers' Advisory Boards	Actual Loadings Fourth Quarter 1944	Estimated Loadings Fourth Quarter 1945	Per Cent Decrease
New England	198,889	183,067	8.0
Atlantic States	1,016,132	974,794	4.1
Allegheny	1,168,924	1,099,542	5.9
Ohio Valley	1,151,872	1,076,191	6.6
Southeast	1,025,642	938,844	8.5
Great Lakes	520,099	474,884	8.7
Central			
Western	380,783	387,722	1.8-in.
Mid-West	1,194,194	1,171,744	1.9
Northwest	563,478	517,273	8.2
Trans-Missouri-Kans.	451,267	451,522	0.1-in.
Southwest	694,765	531,315	23.5
Pacific Coast	429,955	457,398	6.4-in.
Pacific Northwest	309,017	284,424	8.0

The 13 boards expect an increase in the fourth quarter of 1945, compared with the same period one year ago, in the loading of 16 of the commodities listed, and a decrease in 12. Among those showing the greatest increases are the following:

Citrus fruits, 25.1 per cent; cement, 19.5 per cent; grain, 13.9 per cent; potatoes, 11.4 per cent; agricultural implements and vehicles other than automobiles, 6.9 per cent; all canned goods, 5.4 per cent; livestock, 4.9 per cent; flour, meal and other mill products, 4.3 per cent; fresh fruits other than citrus fruits, 3.9 per cent; fertilizers, 3.8 per cent; and fresh vegetables other than potatoes, 3.6 per cent.

Commodities for which decreases are estimated include the following: Petroleum and products, 29 per cent; machinery and boilers, 20.3 per cent; ore, 20.2 per cent; sugar, syrup and molasses, 16.7 per cent; manufactures and miscellaneous, 12 per cent; iron and steel, 10.8 per cent; hay, straw and alfalfa, 8.9 per cent; cotton seed and products except oil, 7.1 per cent; cotton, 6.7 per cent; lumber and forest products, 3.1 per cent; and coal and coke, 2.6 per cent.



Courtesy C. & N. W.

General View of the Lounge Showing Wide Variety of Furnishings

With the Government Agencies

I. C. C. Will Look at Pacific Class Rates

Aitchison replies to Wheeler proposal—southern governors want action

There will be "ample opportunity" for investigation by the Interstate Commerce Commission of the class rates prevailing in the Mountain-Pacific territory, and this will come "perhaps" before the permanent basis of rates for the territories east of the Rocky mountains is worked out as ordered by the commission in the No. 28300 proceedings, according to a letter from Commissioner Aitchison, written at Chairman Rogers' request to Senator Wheeler, Democrat of Montana and chairman of the Senate committee on interstate commerce.

As noted in *Railway Age* of September 29, page 534, the senator had written Mr. Rogers to suggest that the commission broaden the scope of the No. 28300 proceedings, dealing with railroad class rates in Official, Southern and Western territories, so as to include the Mountain-Pacific territory class rate structure, which he described as lacking in harmony and prejudicing certain localities. In replying, Commissioner Aitchison pointed out that the Mountain-Pacific territory was included in the collateral investigation, No. 28310, which resulted in an order requiring the railroads to develop a uniform classification effective throughout the country, and that it would be impossible to formulate the permanent class rate scales contemplated in the order in No. 28300 until this this uniform classification is "fairly well along."

The Way They Wanted It—While interests in the Mountain-Pacific territory, including state commissions and shipper organization, had had an opportunity to become parties to the class rate proceedings at the beginning, they did not then consider it desirable to do so, the letter explained. Recently the commissions of the eleven states in that territory have become parties to the proceedings, but it is still to be decided, Commissioner Aitchison added, whether to have the Mountain-Pacific rates considered in an "independent and fresh" proceeding, or to "superimpose the issue" on the "very elaborate" No. 28300 record, which not only is "a little old," but contains much material not related to the Mountain-Pacific situation.

Reviewing his own connection with the development of Mountain-Pacific class rates, the commissioner appraised these rates in terms somewhat at variance with the senator's, asserting that they exhibited basically a "far greater degree of uniformity" than there was in any comparable area

in the United States, even though competitive conditions and border adjustments may since have "disrupted" this situation "more or less."

The Southern Governors Conference has countered petitions of various interests asking modification of the commission's order in No. 28300, or delay in making it effective, with a request that there be no further postponement in instituting the interim rate adjustments, and that the permanent adjustments be made effective "at the earliest possible time." The uniform classification should be "progressed with all speed consistent with the rights of the shippers," the governors declared, and they went on to say that, if court proceedings are to result from the order, it is "highly desirable" that the issue be joined and disposed of conclusively and at the earliest possible time.

Basis for Findings—With respect to objections to an upward adjustment of Official territory class rates in compliance with the commission's order (some of which were reported in *Railway Age* of July 21, page 113), the governors contended that the order was based on a finding that the class rates in all the territories involved were unreasonable. The commission, they said, has authority under section 15 of the Interstate Commerce Act to prescribe increased Official territory rates and obtain conformity with sections 1 and 3. Having found present rates in violation of section 3, it has authority to prescribe rates to "cure" the violation, they asserted, and they added a denial that the commission has prescribed "what are commonly termed minimum rates."

Dealing further with the arguments of various northern states, the southern governors remarked that, "having insisted for years that high and discriminatory class rates assessed against the South have caused no injury," these states "now assert that an increase of 10 per cent in the rates in their territory, although leaving those rates much lower than in the South, will be ruinous."

A reply to the appeal of the American Trucking Associations for suspension or modification of the interim rail class rate adjustments ordered in No. 28300, insofar as they affect merchandise traffic, has been filed by the railroads in Official territory. The reply asserts that the record does not warrant prescription of separate class rate scales for carload and l. c. l. shipments; that there is no legal or factual basis to justify a restriction of the prescribed rates making them inapplicable to l. c. l. handled in pick-up and delivery service, as requested by the truckers; and that the prescribed interim rates amply cover the costs of handling l. c. l., including pick-up and delivery service, their compensatory character being established by the Edwards cost data.

Land-Grant Repealer Comes Before Senate

Bilbo launches filibuster and restrictive amendments are proposed

Senate consideration of the House-approved Boren bill to repeal remaining provisions of the land-grant-rate law was under way as this issue went to press, but the repealer was confronted with a filibuster which Senator Bilbo, Democrat, of Mississippi, threatened to carry on for 30 days, and with proposed amendment to delay the effective date of repeal until all sections of the country are accorded the same freight rates on both class and commodity traffic, and to deny the benefits of repeal to any road which failed to reconvey to the government any granted lands still held and not actually in use for right-of-way.

Senator Bilbo was sponsor of the return-the-lands amendment while Senator Johnston, Democrat, of South Carolina, proposed the rate-equalization provision. Another amendment proposed by Mr. Bilbo would delay the effective date of repeal until 18 months after the enactment date. As passed by the House the bill, H. R. 694, would have made repeal effective 90 days after the enactment date. In its favorable report to the Senate, that body's committee on interstate commerce proposed an amendment which would make repeal effective 90 days after the cessation of hostilities in the war with Japan, as proclaimed by the President or declared by concurrent resolution of the two houses of Congress, whichever is earlier.

Wheeler Opposition Removed—Opening Senate debate on the measure included some discussion of the effective date, with Chairman Wheeler of the committee on interstate commerce saying that the committee's amendment with respect to the effective date was "no longer of great importance." Senator Wheeler, who had been opposed to repeal during the war, is now in favor of the bill. He took charge of the measure on the Senate floor, opening the debate with an explanatory statement.

Senator Bilbo's active opposition was anticipated, for he had announced that he would have "extended remarks" to make when the bill was called up for consideration (see *Railway Age* of September 22, page 499). At that time the "gentleman from Mississippi" said that the bill was an attempt "to take out of the treasury of the United States tax moneys amounting to approximately \$1,000,000,000." In the course of his explanation of the bill, Sena-

(Continued on page 577)

Traffic Control Head Retires from Army

Brig. Gen. Williamson awarded
Distinguished Service Medal
for "devotion to duty"

Brigadier General William J. Williamson, chief of the Army Transportation Corps' Traffic Control Division, returned to civilian life on September 29 with a Distinguished Service Medal which was presented to him on that day by Major General Charles P. Gross, chief of transportation. The retiring general was cited for his display of "initiative, leadership and a high devotion to duty."

General Williamson's "profound knowledge in transportation and industrial traffic fields," the citation continued, "enabled him to successfully move the greatest volume of freight and personnel ever accomplished. General Williamson was responsible for savings to the government in excess of one hundred million dollars through the adjustment of freight rates, reclassification of commodities and perfection of transit arrangements. His service constitutes a conspicuous and outstanding contribution to the success of the armed forces of the United States and its allied nations."

General Williamson, who had been general traffic manager for Sears, Roebuck & Company for many years, was called to the War Department as a technical adviser on traffic matters in March, 1942, just after the reorganization of the Army. In July of that year, when the Transportation Corps was formed under General Gross, he was appointed a colonel. His promotion to the rank of brigadier general came in September, 1944.

General Williamson was born in Canada on August 21, 1894, and he began his railroad career with the Great Northern at St. Paul, Minn. In 1929 he became assistant purchasing agent and then general traffic manager of Sears, Roebuck & Com-



Brig. Gen. W. J. Williamson

pany. Early this year General Williamson was elected first president of the newly-formed Army Transportation Association. He has been active in the affairs of the National Industrial Traffic League, Associated Traffic Clubs of America, and Transportation Association of America.

Commercial Freight Freed from O. D. T. Export Controls

General Permit ODT 16B-3, issued by the Office of Defense Transportation, effective October 1, freed all commercial freight from the unit permit requirements of General Order ODT 16B. Such freight may now be shipped to ports for export without the necessity of obtaining O. D. T. export permits.

The O. D. T. announcement stated that peacetime procedures now prevail with respect to commercial shipments for export, except that each shipment must be covered by a bona fide booking with an ocean carrier unless consigned to pre-arranged port storage, and that rail shipping documents must carry a shipper certification that "General Permit ODT 16 B-3 applies." Meanwhile, the general order remains in force with respect to freight shipped for export by the Army, Navy, and all other government agencies including the Red Cross and United Nations Relief & Rehabilitation Administration.

Representation of Employees

Road conductors on the Pere Marquette will continue to be represented for collective bargaining purposes by the Order of Railway Conductors, that organization having beaten the challenging Brotherhood of Railroad Trainmen in a recent election and obtained from the National Mediation Board a certification that no change in representation is desired by the employees involved. Meanwhile, the B. of R. T. has supplanted the O. of R. C. as representative of road conductors on the Minneapolis, Northfield & Southern, and it has retained its right to represent yardmen on the Yazoo & Mississippi Valley where it defeated the challenging Switchmen's Union of North America.

On the Conemaugh & Black Lick, the Brotherhood of Locomotive Firemen & Enginemen defeated the challenging United Steelworkers of America, Congress of Industrial Organizations, and retained its right to represent locomotive engineers; but the Steelworkers union was chosen by the road's clerical, office, station and storehouse employees who were previously unrepresented.

Redcaps employed by the Tulsa Union Depot Company have voted to retain the United Transport Service Employees of America, C. I. O., as their representative. That organization defeated the challenging Brotherhood of Railway Clerks by a vote of 15 to 0. Patrolmen, including lieutenants, sergeants, and watchmen employed by the Great Northern have chosen the National Council Railway Patrolmen's Unions, American Federation of Labor, while Chicago, Burlington & Quincy restaurant and lunch-room employees have chosen the Hotel and Restaurant Employees Alliance, A. F. of L. Both of these groups were previously unrepresented.

Truman Asks Passage of St. Lawrence Pact

Appeal follows introduction of
like resolutions in both
branches of Congress

President Truman this week called upon Congress for "speedy approval" of the United States-Canadian agreement for development of the St. Lawrence seaway and power project "as part of our program of international cooperation, expanding foreign trade, and domestic progress in commerce and industry." The message characterized the proposed development "one of the great constructive projects of the North American continent, in fact, one of the great projects of the world, which was delayed by the exigencies of war."

It went to Congress on October 3, the day following the introduction in both branches of identical joint resolutions to provide for approval of the agreement with Canada. The joint-resolution approach, which would bring favorable action by a majority vote of both branches, avoids the necessity for obtaining the two-thirds Senate vote required for ratification of a treaty.

Bi-partisan Sponsorship.—The Senate joint resolution (S. J. Res. 104) was introduced by Majority Leader Barkley, Democrat of Kentucky, for himself and Senators Wagner of New York, Hill of Alabama, Taylor of Idaho, Democrats, Aiken of Vermont, Ferguson and Vandenberg of Michigan, Langer of North Dakota, Shipstead of Minnesota, Republicans, and LaFollette of Wisconsin, Progressive. Thus it is a bi-partisan proposal. The House resolution (H. J. Res. 248) was introduced by Representative Sabath, Democrat, of Illinois.

Both call for approval of the U. S.-Canadian agreement of March 19, 1941, with the exception of articles VII and IX which relate to perpetual navigation rights and the diversion of water at Niagara. With respect to these matters the resolutions say it is the sense of Congress that a treaty or treaties should be negotiated and submitted to the Senate.

Another provision of the resolutions would authorize and direct the President, through the Department of State and "with the appropriate agencies of Canada," to investigate the "feasibility" of making the seaway "self-liquidating by the imposition of reasonable charges or tolls on the foreign commerce of the two countries utilizing the facilities." Upon completion of such investigation the President would report to Congress "his findings and recommendations as to whether such charges or tolls are desirable and feasible in the light of existing treaty and other international obligations of the United States."

Message Stresses Power Phase.—The greater part of the President's message was devoted to the hydroelectric power phase of the proposed development, although there was no implication that he was not enthusiastically in favor of the seaway, too. He spoke of "opening the Great Lakes to ocean navigation," and of the "government's responsibility" for harness-

ing "the waters of our great rivers for the promotion of commerce and industry."

With respect to the power phase, however, the President had bait not heretofore available to proponents. The message said that the country's "foresight" in developing power projects on the Tennessee and Columbia rivers and in California's Central Valley made possible the wartime production of 50,000 airplanes a year and permitted development of the atomic bomb earlier than would otherwise have been possible. "The timely development of these rivers shortened the war by many years, and saved countless American lives," the President said. "We must ever be grateful for the vision of the late President Franklin D. Roosevelt and the wisdom of the Congress in urging and approving the harnessing of these priceless natural resources."

For 50 years, Mr. Truman went on, the United States and Canada "under both Republican and Democratic administrations, under Liberal and Conservative governments," have envisioned the development of the St. Lawrence project "as a joint enterprise." He added that "upon the expectation that we would join them in completing this great engineering project," Canada has already built "more than half its share."

Case "Has Been Proved."—As the President appraises the evidence, the case for the St. Lawrence "has been proved." He said that "every engineering investigation during the past 50 years, every economic study in the past 25 years has found the project feasible and economically desirable." And "the plans are ready."

With further reference to the power phase, the President's message said that the power facilities constructed by the federal government should be turned over to the State of New York on the basis of the memorandum of agreement dated February 7, 1933. Governor Dewey of New York had asked for reassurances on that point in a telegram sent to the President on September 19. The governor had been informed that discussions in Washington had brought forth proposals for the introduction of a bill which would merely ratify the international agreement and omit the accord between the federal government and New York.

The President in a September 27 telegram assured Governor Dewey that he favored carrying out the 1933 arrangement. As indicated above, the message to Congress followed through to assert that this should continue to be the federal government's policy and the joint resolutions so provide.

Opposition to the seaway was expressed by Representative Butler, Republican of New York, in a statement inserted in the appendix to the September 27 issue of the Congressional Record. Mr. Butler, whose district embraces a portion of Buffalo, N. Y., asserted that the seaway "propaganda" is a "lot of visionary buncombe." He warned that it would "work economic havoc to the New England and Atlantic seaboard states"; that it would "cause diversion of business from existing transportation agencies," and other dislocations with "terrific" economic consequences on employees of railroads and water carriers, coal miners and workers engaged in the production of

electrical energy." Mr. Butler went on to call upon his colleague to "beware of this international scheme, this monstrosity to sell American labor and her free enterprise down the river."

Would Include Domestic Ocean Shipping in Transport Study

Senator Shipstead, Republican of Minnesota, has framed a proposed amendment which would specifically include "coastal and intercoastal water transportation" within the scope of the transport investigation which the Senate committee on interstate commerce would be authorized and directed to make under the terms of the pending Senate Resolution 161. The provisions of the resolution, which has been reported favorably from the committee, were outlined in the *Railway Age* of August 4, page 222.

Another Tie Price Increase

An increase of \$1.50 per 1,000 ft. board measure in the mill ceiling prices of railway cross ties manufactured in the "fringe area" east of the Rocky mountains has been announced by the Office of Price Administration, effective October 3. The "fringe area" includes North and South Dakota, Utah, Wyoming, Colorado, Arizona, New Mexico, three counties in Oklahoma, west Texas and Mexico.

The O. P. A. also announced that manufacturers' ceiling prices on Port Orford cedar ties, previously authorized on individual application, have been placed in a table of prices in the regulation governing sales of cross ties. As these prices have been in use by the tie industry since the issuance of the regulation, no changes will result.

More on Veterans' Rights

Veterans seeking reinstatement in their former positions under reemployment provisions of the Selective Training and Service Act are not required to meet higher standards than existed in the position at the time they left to enter the armed forces, according to an interpretation announced by Selective Service National Headquarters on October 1.

"Nor is the veteran required to meet standards which the employer may set for other employees in the same or like positions," the statement continued. "If the position has been so changed in job content that it is beyond the veteran's skill, he is entitled to a job requiring skill comparable to that required by the position which he left at the time he left and equal in seniority, status, and pay to that which he vacated."

"If the veteran can do his job or can be retrained on the job to perform the duties safely and with acceptable efficiency within a reasonable period of time, he is entitled to be restored to that job. The veteran is entitled to every practicable opportunity to prove that he can perform the duties of the job."

Medical examinations may be made, without expense to the veteran, when his condition is such that reasonable doubt may be raised in the employer's mind concerning the veteran's ability to perform the duties of his former position, but the resultant

determination "should not be considered as binding upon the veteran and should not be considered as depriving him of any legal remedies to which he is entitled under the law." Concerning disability, Selective Service declared that reemployment in his former position, or one of like seniority, status, and pay, should not be denied to any veteran on the basis of disability except where his disability is such as to make performance of duty impossible or to reduce his job efficiency to a level below that normally expected of an acceptable employee, or his presence on the job would jeopardize the safety or health of himself or others.

Southern Grain Rate Changes Again Postponed

The effective date of the Interstate Commerce Commission's order making certain adjustments in proportional and combination rates on grain and grain products to the South has again been postponed by a commission order under which it becomes effective, on 30 days' notice, on February 1, 1946. Postponement had been sought by western and southern railroads. The decision, which was in No. 17000, Part 7-A, I. & S. No. 4208, and related proceedings, was reported in *Railway Age* of April 14, page 671.

Proposed New Time Limits on Overcharge Claims

The Senate committee on interstate commerce this week voted to report favorably to the Senate amended versions of S. 356 and S. 432, bills relating to limitations on the time within which actions may be brought for the recovery of undercharges and overcharges by or against carriers.

There are now no provisions in the Interstate Commerce Act relating to a time limit for actions by or against motor carriers, and S. 356, as approved by the committee, proposes to add such provisions, fixing the time limit at three years with respect to both overcharge and undercharge claims. It would also add like provisions with respect to actions by or against freight forwarders.

S. 432, as approved by the committee, would increase from two to three years the period of limitation on actions by or against railroads for recovery of undercharges or overcharges.

Commissioners Association Sets Convention for Dec. 4-7

Following a September 27 meeting of the executive committee of the National Association of Railroad and Utilities Commissioners, Secretary Ben Smart has announced that this association will hold its 1945 annual convention at the Macfadden-Deauville hotel, Miami Beach, Fla., from December 4 to 7, inclusive, thus keeping unbroken the continuous line of conventions held each year since 1889, when the association first met, and reversing an earlier decision to omit the convention this year, made while the Office of Defense Transportation's convention ban was effective and hostilities were still in progress.

The termination of the war and resulting regulatory problems require common counsel and consideration at a meeting of all the state commissions, the executive

committee agreed. The tentative program for the meeting includes the following topics: Postwar transportation; the natural gas investigation; future of telecommunications as result of improvements made during the war; the utility rate base; the utility rate of return; local regulation of commercial aviation; and the importance of exercising state sovereignty. A number of speakers are expected to lead the discussions of these subjects.

Would Wind Up Ex Parte 148

The Secretary of Agriculture has asked the Interstate Commerce Commission to "declare a date not later than March 2, 1946, as the expiration date for the original order in Ex Parte 148 . . . and without further hearing to discontinue said proceeding immediately," and substantially similar requests have been submitted by the National Association of Railroad and Utility Commissioners, the Southeastern Association of Railroad and Utility Commissioners, the individual commissions of some 28 states, and by the states of Iowa and North Dakota.

The order in Ex Parte 148 to which these petitions refer allowed the railroads to increase passenger fares 10 per cent and to make certain upward adjustments in freight rates, with such authorization expiring six months after the termination of the war. The freight rate increases were authorized March 2, 1942, but have been suspended since May 15, 1943, and the railroads recently advised the commission of their consent to a further suspension, for such period as the commission may see fit.

In urging that the Ex Parte 148 proceedings be discontinued immediately, the Secretary of Agriculture took the position that the increases were designed to afford the railroads relief under war-time conditions which are no longer prevailing.

I. C. C. Service Orders

The Interstate Commerce Commission has issued Service Order No. 354, effective October 1 through 31, unless otherwise directed, requiring all railroads connecting with the Toledo, Peoria & Western to forward by the most available route, without regard to shippers' instructions, freight which is routed over that carrier but cannot be accepted by it because a "strike of certain operating employees" is interfering with its operation.

The prohibition on holding for orders of carload shipments of grain or seeds at certain Minnesota points, effected by Service Order No. 160, amended, has been suspended by No. 160-D from October 1 through October 15.

Minimum loading requirements effective under General Order No. 1 of the Office of Defense Transportation have been modified by General Permit No. 7 thereunder, effective October 1, which permits the movement of type RS refrigerator cars containing not less than five tons when moving westward direct, without stop at transfer points, to destinations in California, Arizona, Nevada, Utah, or southern Idaho.

The commission has vacated and set aside additional service orders that were designed to facilitate the war-time movement of

freight and the conservation of equipment, among them No. 242-B, which prescribed super-demurrage charges on box cars held beyond tariff free time. This order carried an October 1 expiration date, but it was cancelled by No. 242-C, effective September 30.

Other service orders set aside by the commission include:

No. 77, which prohibited billing of cars loaded with fruits or vegetables to Potomac Yards, Va., for diversion, reconsignment, or holding for orders. Cancellation by No. 77-A was effective September 30.

No. 88, which required joint use of specified trackage within the Memphis, Tenn., switching district. Cancellation by No. 88-A was effective September 29.

No. 100, which required certain roads to make common use of specified yards and tracks at Birmingham, Ala. Cancellation by No. 100-A was effective October 1.

No. 246-B, which made super-demurrage charges on box cars applicable to the State Belt of California. Cancellation by No. 246-C was effective September 30.

No. 327, which prohibited the movement of carload shipments to Mexico on other than straight bills of lading. Cancellation by No. 327-A was effective October 1.

No. 352, which restricted weighing of sand and gravel moving on a specified route in Indiana. Cancellation by No. 352-A was effective September 29.

Resolution Authorizes Start on Highway Spending

The Senate on October 2 passed and sent to the President a House-approved resolution (H. Con. Res. 81) to declare the war emergency has been relieved "to an extent that will justify proceeding with the high-construction program" provided for by the Federal Aid Highway Act of 1944. As noted in the *Railway Age* of December 16, 1944, page 938, that act set up a \$3,000,000,000 post-war program, the \$1,500,000,000 of federal aid (matched by a like amount of state funds) to become available at the rate of \$500,000,000 a year for the first three post-war fiscal years.

The act provided that the funds authorized would not become available until the President or Congress had determined that the war emergency had diminished to a point where the proposed road building could properly begin. H. Con. Res. 81 stipulates that the first post-war fiscal year referred to in the act shall be the fiscal year ending June 30, 1946.

Fined for Violation of Rule on Transport of Explosives

The Interstate Commerce Commission has been advised that on September 25, in the United States District Court for the Eastern District of Michigan, a plea of guilty was entered on behalf of the Wabash to an information on four counts charging violations of commission regulations governing the transportation of explosives and other dangerous articles. A fine of \$800 was imposed.

The I. C. C. announcement by Secretary W. P. Bartel said that the specific violations charged in the information were the cutting off of cars loaded with and

placarded "explosives" while in motion, in switch movement, and permitting such cars to run into tracks under their own momentum; also permitting cars not containing explosives to be cut off while in motion and strike cars loaded with explosives. The matter was investigated by the commission's Bureau of Service and prepared for prosecution by its Bureau of Safety.

Railroads Reply to Georgia's Anti-Trust Complaint

The railroads named by the State of Georgia as defendants in its original suit in the Supreme Court of the United States, charging conspiracy in violation of the anti-trust laws (docketed as *Georgia vs. Pennsylvania Railroad*), have asked the court to dismiss the case on the grounds (1) that the state, in its complaint and the bill of particulars which it was directed to file with the court, has described in false and misleading terms the rate-making machinery by which the carriers do what the law and the Interstate Commerce Commission require, and (2) that they have done nothing to injure Georgia or its citizens, or to discriminate against them.

Separate answers to the state's complaint were filed by 12 "northern" and 8 "southern" roads. The latter group—including the Atlantic Coast Line; Carolina, Clinchfield & Ohio; Louisville & Nashville; Illinois Central; Gulf, Mobile & Ohio; Seaboard Air Line; Southern; and Nashville, Chattanooga & St. Louis—denied first the general allegations that they had conspired to fix rates to the injury of the state or its ports or people, that they had coerced, or been coerced by, others to fix such injurious rates, and that any of the rates applying to, from or within Georgia is unjust, discriminatory or otherwise unlawful.

Joint Action Obligatory—With respect to the conference method of rate-making, the southern roads pointed out that the method is essential in order to comply with the obligations placed on carriers by the Interstate Commerce Act, including the national transportation policy as there stated, and also in order to avoid the evils denounced by the anti-trust laws they are accused of violating. Such rate-making machinery does not result in discrimination, they asserted, but is necessary, on the contrary, to prevent the discrimination condemned by law.

Except for one temporary emergency committee, whose power was limited to the duration of the war (the so-called Traffic Executive Chairmen's Committee), and which was set up at the request of the Office of Defense Transportation and the armed forces, for their convenience, and with the approval of the Department of Justice, said the southern railroads, no rate conference has any power to fix or initiate freight rates, while members of conferences have the right of independent action and exercise that right frequently.

With respect to the state's assertion that the Association of American Railroads is the "supreme authority in the hierarchy of private rate-fixing agencies," the southern and northern roads agreed in replying that no action with respect to rates which any

carrier desires to take is controlled by any action of the A. A. R., since rate-making procedures are not within the jurisdiction of the association, nor are their results subject to review by it, and they went on to say that the association has not sought to interfere with the functions of any rate-making conference to which they are parties.

Coercion Denied—Admitting that no Southern road publishes a joint through rate from Georgia to points in the North if northern carriers involved decline to join in such rates, the southern roads argued that this is not evidence of coercion on the part of the northern roads, but only of failure to reach an agreement. To the state's contention that rates between northern points and Georgia are 39 per cent higher than for like commodities for like distances in the North, the carriers' reply was, first, that this statement applied only to some first class "paper" rates, which now must be adjusted under the provisions of the commission's order in No. 28300, and, second, that on most freight moving between Georgia and the North commodity rates apply, such rates being lower, in many instances, than comparable rates wholly in the North.

The reply of the "northern" roads—the Chesapeake & Ohio; New York, Chicago & St. Louis; Baltimore & Ohio; Pennsylvania; Chicago & Eastern Illinois; Western Maryland; Erie; Richmond, Fredericksburg & Potomac; Wabash; Norfolk & Western; Chicago, Indianapolis & Louisville; and New York Central—paralleled the southern lines in general, stressing the argument that the development of the economy of Georgia and the South has not been hindered by the present structure of through rates, which the state claims were fixed illegally, but instead has been fostered by it, with the result that, in the period from 1919 to 1939, the value of manufactured products produced in that section increased more than 25 per cent, as compared to a decrease of about 9 per cent for the United States as a whole.

As reported in *Railway Age* of March 31, page 584, the Supreme Court, in a 5-to-4 decision, accepted original jurisdiction in the state's suit, allowing it to present its complaints against the conference method of making rates. Subsequently Georgia filed, at the court's order, a "bill of particulars" setting forth more specifically certain aspects of its allegations of conspiracy and discrimination, and the carriers have now filed their denial of these charges, asking dismissal of the case. Unless the court grants this motion, its regular procedure would be to order trial before a special master, whose recommendations the court would then review, along with the record, before its decision is rendered.

Truckers Call South's Express Rates "Unfair"

A complaint has been filed with the Interstate Commerce Commission by the Southern Motor Carriers Rate Conference charging the Railway Express Agency with violation of section 3 of the Interstate Commerce Act by allegedly publishing non-compensatory, "truck competitive" rates between certain points, especially in South-

ern territory, but not to and from other points in other territories, thus giving shippers in the South an unfair competitive advantage over shippers in other sections.

Docketed as No. 29392, the complaint goes on to say that truck service is injured in territory where the express rates are allegedly less than reasonable, and in violation of section 1 of the act, with the result that the agency, referred to as a joint facility of the railroads, is violating the national transportation policy. Certain tariffs are specified as containing these rates, which are said to be less than prevailing truck rates, and the commission is asked to issue a "cease and desist" order and direct that "reasonable and just" rates be established so that such "destructive" competition cannot be continued.

Land-Grant Repealer Comes Before Senate

(Continued from page 573)

tor Wheeler recalled this statement, characterizing it as "perfectly preposterous."

Meanwhile, however, Senator Bilbo obtained some more publicity last week as a result of a newspaper interview wherein he made his threat to conduct a 30-day filibuster. In that interview he suggested that a new capitol building could be constructed with the money saved by the government through defeat of the bill; and he proposed thus to provide the funds and promote the idea of constructing a new capitol. This, Mr. Bilbo went on, would cost about \$250,000,000, the amount which he said the railroads stand to gain annually if the bill is enacted. The senator further calculated that his constituents would save \$700,000 or \$800,000 each day he delayed passage, adding that if he talked 30 days he would save them about \$24,000,000.

Bilbo Outmaneuvered, Temporarily

—While he got the floor and launched his filibuster on October 3, the second day of debate on the bill, the Mississippian had been outmaneuvered by Senator Wheeler and taken off the floor the previous day. At that time Senator Bilbo was on his feet ready to get his filibuster under way at the first sign of an attempt to bring up the repealer. Senator Wheeler made the point of order that no senator was entitled to hold the floor during the so-called "morning hour" when no business was before the Senate. The point of order was sustained, and the interstate commerce committee chairman followed through to get himself recognized for the purpose of calling up the bill. His motion to proceed with consideration of the measure was promptly agreed to.

Senator Wheeler then went on to his explanation of the bill and outline of developments leading up to its proposal to complete the repeal job started by the Transportation Act of 1940 which abolished land-grant rates with respect to railroad service provided to the government on non-military freight and passengers, but left the deductions applicable to military and naval supplies and personnel. The Montanan pointed out that complete repeal is favored by the Interstate Commerce Commission, shippers, railroad brotherhoods, and various other organizations. He did not

know of "any individual or organization" opposed to repeal "except some persons in government service in Washington."

Relating land-value figures to rate reductions received by the government, Senator Wheeler noted that the discounts had more than equaled the land values. He also pointed out that construction of the railroads enhanced the value of lands retained by the government, a circumstance which he said would have made the transaction a "good bargain" for the government even though the railroads had been given the lands outright. Discussing the partial repealer embodied in the 1940 act, Senator Wheeler recalled that President Truman, then a senator, "was one of those who joined me in introducing this bill," and "was very much in favor of this provision of the law as it was passed at that time."

Return of Lands Not Feasible—With respect to proposals to require railroads to return granted lands still held, Senator Wheeler said that he once favored such proposals but he has changed his mind. "Upon examination of the situation," he said, "I found that in a great many instances the lands had been mortgaged by the railroad companies and, furthermore, the states through which the railroads ran were violently opposed to turning back these lands to the government, because it would have meant that they would not be subject to taxation in many of the northwestern states, where the government already owned so much of the land. It was said that if it took over the land in some counties, the counties would not have sufficient money to maintain the schools."

"Adequate Block System" Again Advised After Collision

As a result of its investigation of a head-on collision August 17 on the Baltimore & Ohio at Philippi, W. Va., which was found to have been caused by an inferior train occupying the main track on the time of an opposing superior train, the Interstate Commerce Commission, in a report prepared under the supervision of Commissioner Patterson, has recommended that the road "install an adequate block system" on the line involved.

The accident occurred on a single-track section of line from Berkeley Run Junction (near Grafton) to Charleston, Philippi being 14.3 miles west (by timetable direction) of the junction. Trains are operated by timetable and train orders, supplemented by a manual block system for trains following passenger trains. The average daily movement in the vicinity in the 31 days preceding the accident was 20.8 trains.

Approaching the point of the collision from the east, there is a compound curve to the right (7 deg. maximum), a 312-ft. tangent, and a compound curve to the left (11 deg. maximum), extending 491 ft. to the point of accident and 630 ft. beyond; this is followed by a 257-ft. tangent.

The trains involved were No. 35, a west-bound passenger, made up of a locomotive, 3 baggage-mail cars and a coach, and Extra 2771 East, a light engine. The crew of the latter consisted of an engineer, fireman and brakeman. Under the rules, this engine was required to clear the main track

not less than 5 min. before the scheduled arrival time of the opposing train, but the engineer's watch apparently stopped a few minutes before the engine reached Philippi, leading him to believe he had sufficient time to reach an industry track some 725 ft. east of the station, where he intended to clear for No. 35. The other employees on the engine neither observed the time nor questioned the engineer as to his authority to proceed.

The collision occurred at 9:53 a. m., 492 ft. east of the Philippi station and 232 ft. west of the west switch of the industry track. Visibility was restricted on the curve by buildings and vegetation, so that the opposing engines were only about 200 ft. apart when the engineers discovered their situation. Both then applied brakes, and the light engine was moving about 10 m.p.h. and the passenger train about 15 m.p.h. when the collision occurred. None of the equipment was derailed, but the engines were considerably damaged and 7 passengers, a mail clerk, and 5 employees were injured.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since September 13, and which are of interest to railroads:

Housing Materials and Equipment—Restrictions on the use of critical materials and equipment in housing construction, with the exception of those on lead and tin, have been removed by revocation of Schedule I (War Housing Critical List) and Schedule II (War Housing Construction Standards) to Order P-55-c.

Schedule I listed materials and equipment currently in short supply and prohibited or restricted their use. Chief among items covered by the schedule as most recently amended in June 1945, were elevators and escalators, lead and lead products, lumber, insect screen cloth, and plumbing, water and gas installations.

W. P. B. pointed out that the use of lead and tin still limited by provisions of M-38 (lead) and M-43 (tin). Schedule II imposed restrictions on the design of new housing and also restricted the use of lumber and the installation of plumbing. Order P-55-c, which assigns preference ratings and allotments symbols for authorized housing construction, remains in force. However, no preference ratings will be assigned under the order after September 30, W. P. B. said.

Lead Products—A 9,500-ton increase in fourth-quarter lead allocations over the 256,000-ton third-quarter total has been approved by W. P. B. Requirements Committee in a move to accelerate peacetime production. This increase together with an estimated sharp drop in fourth quarter imports may necessitate dipping heavily into the government stockpile, W. P. B. reported.

Chief beneficiaries of the increased allocations will be manufacturers of white lead for paints, automotive replacement batteries, cable coverings, solders and collapsible tubes. In the case of batteries, the new allocation will be increased to 106 per cent of the base period (1944) compared with 100 per cent allocations allowed for this purpose in the third quarter.

White lead users were virtually the sole beneficiaries of a fourth-quarter allocation increase in lead chemicals from 33,500 tons to 45,000 tons. W. P. B. stated that the white lead industry bore the brunt of war-time lead conservation with allocations during the first nine months of 1945 reduced to 16 per cent of the 1944 base period. Even on the increased basis, the permissive allocations are still somewhat below the pre-war five year average for the white lead industry, W. P. B. said.

Other sizable increases included a jump in cable covering allocations to 33,000 tons from 28,000 tons while solder requirements and collapsible tubes received 1,000-ton increases to 12,000 tons and 5,000 tons respectively.

Commenting on the circumstances, the commission's report said: "The book of operating rules of this carrier contains manual block rules which, among other things, provide for blocking of opposing trains, but these rules were not in effect in this territory. If an adequate block system had been in use in this territory, these opposing trains would not have been permitted to occupy the same block simultaneously."

O.D.T. Appointment

Frank Perrin has been appointed assistant director, traffic, Railway Transport Department, Office of Defense Transportation. He succeeds L. L. Adams, who resigned to enter private industry.

Mr. Perrin was assistant general counsel of O.D.T. from July, 1944, to March 1, 1945, when he became secretary of the War Committee on Conventions. This committee ended its work with the withdrawal of the ban on convention travel, October 1.

Since there is less lead available than is demanded by the civilian economy, orderly distribution of the supplies is expected to be continued through the use of Conservation Order M-38 at least until the end of the year, W. P. B. reported.

Lumber—Restrictions on the use of stress grade lumber have been removed through revocation of Directive 29, which was issued originally in August, 1943, as a conservation measure. It resulted in an estimated 10 per cent savings in stress lumber.

Malleable Iron Castings—Continued large order backlogs for malleable iron castings, bulked by reconversion needs, insure a high rate of operation for the industry over a long period, the W. P. B. announced recently. W. P. B. officials told members of the Malleable Iron Castings Industry Advisory Committee at a recent meeting, however, that the expiration of the C. M. P. on September 30, would put both producers and consumers "on their toes"—one to insure an equitable distribution of products and the other to develop resourcefulness in obtaining materials without government priorities assistance.

Reconversion needs put almost as great a burden on the malleable iron castings industry as war demands, industry members and W. P. B. officials agreed. They cited the continued demand by the automotive industry for castings needed for gear housings and other automotive parts which in many cases called for the same products in peacetime as in war.

The "CC" rating band will only be issued for bottleneck items according to the provisions of PR 28. Government spokesmen emphasized that manufacturers in need of large quantities of materials must make their own arrangements for production and deliveries without dependence on government priorities assistance.

Sisal Rope—Because of military cutbacks in the use of sisal rope, the Cordage Industry Advisory Committee recently recommended that the W. P. B. remove the end-use restrictions upon the sale of sisal rope in the civilian market. Specifically the committee asked for amendments to M-84, which controls the production and distribution of sisal rope. The committee pointed out that further control of sisal rope had become unnecessary because the current production of the industry is in excess of the total estimated requirements during the next three months.

White Lead—All restrictions on the use of white lead in the production of paints, varnishes, lacquers (including paste white lead) and ceramics were lifted for the month of September, on September 21, and if the supply of white lead continues to be adequate, it is possible that this relaxation will remain in effect thereafter, W. P. B. said.

Prices

Copper Castings—An increase of approximately 10 per cent in ceiling prices for copper castings and copper base castings priced by the "base period" method has been effected by Amendment No. 11 to RMPR-125, effective October 1. The increases are designed to remove the present disparity between ceilings for castings priced under the "base period" method, contrasted with those priced under the "formula" method. As a general rule, O. P. A. said, the "base period" pricing method is used in pricing castings that the manufacturer made during one of two base periods, while the "formula" method is used in pricing items the manufacturer did not make during the base periods.

Because the "formula" method has provided the producer with a higher ceiling price than he usually is supplied with under the "base period" method, in that it more truly reflects current material and labor costs, there has been a movement of orders from producers reluctant to produce castings at the lower "base period" prices to those manufacturers who did not make the particular castings in the base period. The new increases are designed to bring the levels of ceilings for castings priced by the "base period" closer to those priced by the "formula" method. The result is expected to be a lower-cost supply for buyers of these castings. At the same time, the new increases are graduated so that larger than 10 per cent increases are provided for low-price castings to permit broader production of low-priced items. In compensation, the increases provided for higher-priced castings are smaller than those for low-priced items.

The new increases may not be made to ceilings for railroad journal bearings for which dollar-and-cent ceiling prices are provided under the O. P. A. nonferrous castings regulation.

Also, the increases cannot be made to "adjusted" prices. Producers of copper and copper base castings who under individual adjustment orders issued by O. P. A. have been permitted to increase their prices must apply the new increases to their old unadjusted prices if they wish to use such prices in place of their present "adjusted" prices.

Drop Forgings—Increases of 8 per cent in manufacturers' ceiling prices for drop forgings metal stampings and screw machine products, in line with reconversion policy to adjust prices to reflect increased direct material costs and labor rates, have been announced by O. P. A. Amendment No. 11 to revised MPR-136; amendment No. 6 to MPR-351, are both effective immediately.

Tile and Brick—An increase of \$2 on lots of 1,000 bricks and 80 cents a ton on tile in manufacturers' ceiling prices for clay building brick, structural hollow tile and drain tile produced in some areas was announced by O. P. A. effective September 24. Amendment No. 9 to Order No. 1 under section No. 25 of No. 592.

Ungraded Lumber—Ceiling prices for ungraded lumber of any species or combination sold by "small mills" in the South Central region have been established by Amendment No. 17 to MPR-155, effective October 2.

South Central small mills for which the new ceiling prices are provided are mills that, during no consecutive 12-month period since October, 1941, have produced more than 1,500,000 f. b. m. of hardwood lumber, or more than 4,000,000 f. b. m. of hardwood and softwood lumber combined.

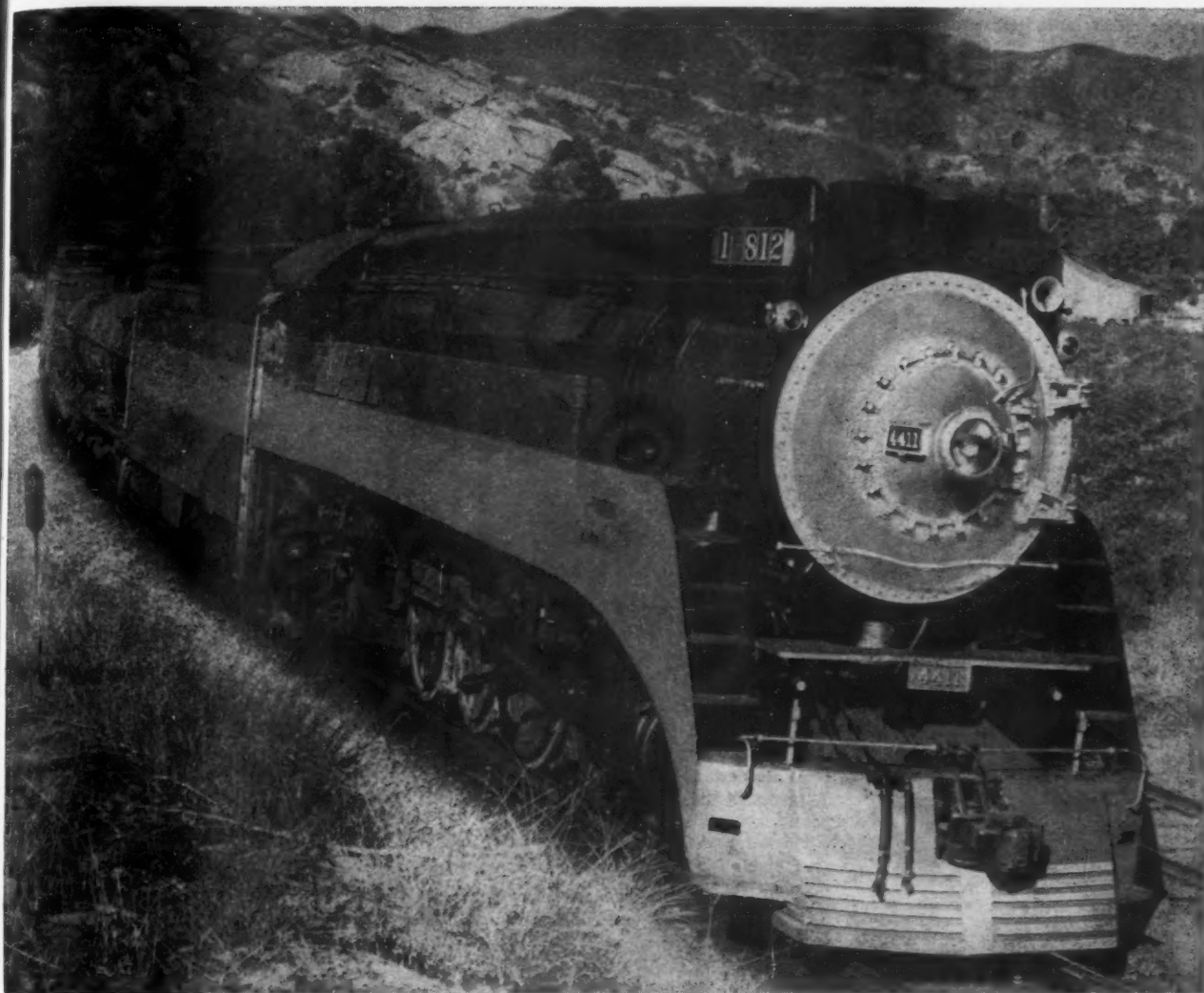
For ungraded South Central hardwood lumber, the maximum prices that small mills may charge are \$32 per M. f. b. m. for lumber 1 in., 1 1/4 in. or 1 1/2 in. thick, \$29 for 2 in. and \$28 for greater thicknesses.

For hardwood lumber graded by a buyer authorized by O. P. A. to produce hardwood lumber on his own inspection, ceiling prices are the usual mill prices for the species and grades, less five per cent to compensate buyers for inspecting and grading the lumber.

Western Crossies—An increase of \$1.50 per M f. b. m. in the mill ceiling prices of railway crossies manufactured in the "Fringe Area" east of the Rocky Mountains, is provided by Amendment 1 to MPR-556, effective October 3.

The "Fringe Area," so called because it fringes the great western pine-producing country, includes North and South Dakota, Utah, Wyoming, Colorado, Arizona, New Mexico, the counties of Texas, Cimarron and Beaver in Oklahoma, West Texas and Mexico.

This action, is designed to restore proper price balance between ties and mill run lumber and



*Lima-built 4-8-4 Southern Pacific engine 4411
hauling a long freight drag up a heavy grade
at Hasson, California, on a Coast Line run.*

to meet the challenge of competition

Railroads soon will be faced with traditional forms of competition, and service once again will have to be sold on the basis of performance. To meet the delivery schedules on which business will insist, efficient motive power will be a first essential.

Modern Lima-built steam locomotives are ready to meet such demands, by providing the most economical means of hauling heavy trains at sustained high speeds.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

to restore the incentive for small mills to cut some of their production into ties. It is in line with a W. P. B. recommendation for an incentive price.

O. P. A. also announced that manufacturers' ceiling prices on Port Orford cedar crossties, previously authorized on individual application, have been placed in a table of prices in the regulation governing sales of other species of crossties. These prices, O. P. A. said, have been in use by the railway cross tie industry since the issuance of the regulation. Since they represent the March 1942 dollar and cent level established by the GMPR, no changes will result.

Supply Trade

The **Silent Hoist & Crane Co.** has been awarded a fourth renewal of the Army-Navy "E."

The **Nathan Manufacturing Company** of New York has been presented the Army-Navy "E" for excellence in war production.

The **Pittsburgh Steel Foundry Corporation**, Glassport, Pa., has purchased the plant and equipment of the Fort Pitt Steel Casting Company, McKeesport, Pa., which it will operate as the Fort Pitt



T. F. Dorsey

Division. T. F. Dorsey, who has had many years of varied experience at Fort Pitt, has been appointed general manager of the division. Since the first of this year, Mr. Dorsey has been associated with Pittsburgh Steel Foundry in an assistant sales manager capacity. During the previous ten years he had been Fort Pitt's sales manager.

The **Aro Equipment Corporation**, Bryan, Ohio, has appointed seven new jobbers to handle its line of Aro industrial pneumatic tools. These include the Kendall Hardware-Mill Supply Company, Kalamazoo, Mich., under the supervision of Charles Kocsis, local division manager in the territory; the Reed Process Welding Company, Belleville, Ill., under G. W. Gille & Sons; the Lee Hardware Company, Salina, Kan., under W. L. Etherton; the McFall Auto Works, Globe, Ariz., and Auto Accessories, Inc., Seattle, Wash., under the Burklyn Company; and the San Jose Hardware Company, San Jose, Calif., and Hickinbotham Bros., Ltd., Stockton, Calif., under the H. E. Linney Company.

Walter P. Sebastian, engine terminal foreman of the Southern railway at Spencer, N. C., has been appointed service engineer of the **Superheater Company** in the southeast with headquarters at New York.

Frank Geraci, formerly with the New York Central System, has been appointed manager of the railroad division of the



Frank Geraci

Pantasote Company. Previous to his connection with the New York Central, Mr. Geraci was chief expeditor of both the Washington, D. C., and Cincinnati, Ohio offices of the War Department's Transportation Corp., and was with the War Production Board in the transportation equipment division.

W. A. Elliott, executive vice-president, has been elected president of the **Elliott Company**. He succeeds **Grant B. Shipley**, president and chairman of the board, who continues as chairman. **F. H. Stohr**, formerly assistant to the president, has been elected executive vice-president and **F. W. Dohring**, general sales manager, has been elected vice-president in charge of sales.

Robert B. McColl, vice-president in charge of manufacturing, has been elected executive vice-president of the **American Locomotive Company**. **W. L. Lentz**,



Robert B. McColl

of Schenectady, N. Y., who directed the company's tank and locomotive manufacturing program there during the past five years, has been appointed to succeed Mr.

McColl as vice-president in charge of manufacturing.

Mr. McColl was educated at Kilmarnock Academy and the Science and Art College, in his native Kilmarnock, Scotland. He began his apprenticeship in locomotive building with the Glasgow & Southwestern railway in Scotland. After a period with Robert Stephenson & Sons in Darlington, England, he joined the Montreal Locomotive Works in Canada, an affiliate of American Locomotive Company. After World War I he was with the Armstrong-Whitworth Company in England but soon returned to this side as assistant manager of the Schenectady works of American Locomotive. He since has been successively manager of this plant, president of the company's Diesel engine manufacturing division, the old McIntosh & Seymour Corp., president of the Alco Products division, and vice-president in charge of manufacturing for the company. During the war, he directed the company's huge war production program.

Mr. Lentz took over the management of the Schenectady plant at the outset of the war and supervised the conversion of the plant from its locomotive building operations to tank production. He was an avia-



W. L. Lentz

tion cadet and artillery officer in the last war and began railroading in 1913 with the New York Central. For an interval after 1937, he was sales manager of the Standard Stoker Company.

The **Ardco Manufacturing Company**, North Bergen, N. J., has been awarded the Army-Navy "E" flag with five stars for continued excellence in war production.

Julius Kirchhof has been elected vice-president in charge of engineering for the **Franklin Railway Supply Company**, with headquarters in New York.

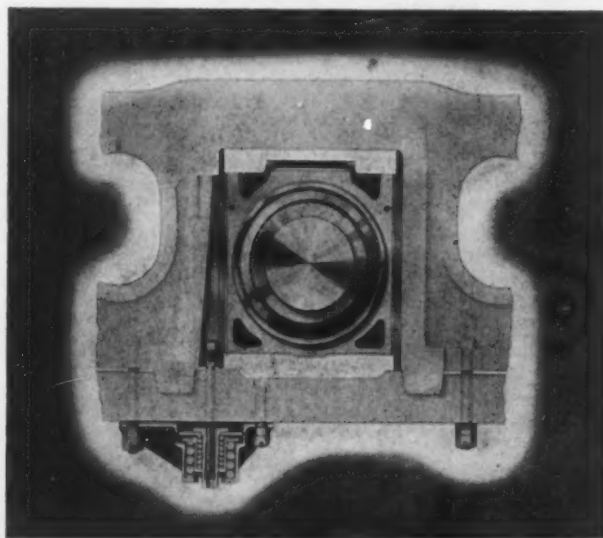
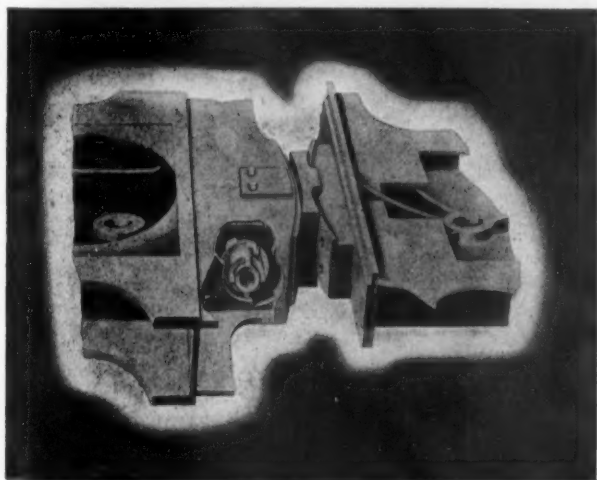
The Storage Battery division of the **Philco Corporation** has been awarded its sixth Army-Navy "E." This is the 21st "E" conferred on Philco Corporation plants.

C. N. Schmidt has been appointed advertising manager of the **American Steel & Wire Co.**, subsidiary of the U. S. Steel Corporation, to succeed **Wilmer H. Cordes**, who now will devote his full attention to his responsibilities as manager



Locomotive availability--always important--is vital today. Everything possible must be done to keep locomotives on the road, to lessen maintenance, and reduce shoptime.

BY checking the oscillation between engine and tender, and preventing the development of lost motion and consequent destructive shocks to drawbars and drawbar connections, the FRANKLIN E-2 RADIAL BUFFER definitely reduces maintenance time and increases locomotive availability.



Likewise, the FRANKLIN COMPENSATOR AND SNUBBER, by automatic adjustment, dampens stresses, greatly prolongs the life of locomotive bearings, and lengthens the mileage between shopping periods.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

of sales research, development and promotion. Mr. Schmidt has been associated with the American Steel & Wire Co. since October, 1938, when he was employed as an advertising production supervisor.

Walter R. Penman, assistant general manager, has been appointed general manager of the Lebanon, Pa., plant of the **Bethlehem Steel Company** to succeed **J. H. Edmonds**, who has retired.

Marshall B. Taft, formerly of the Aero division, **Minneapolis-Honeywell Regulator Company**, has been appointed assistant to the president of the **Brown Instrument Company**, Philadelphia, Pa., industrial division of the Honeywell organization.

Charles F. Greene has been appointed Atlanta, Ga., representative of the Storage Battery division of the **Philco Corporation**. Mr. Greene formerly was connected with A. K. Sutton, Inc., Philco distributors in Charlotte, N. C.

David F. Austin, vice-president in charge of sales of the **Carnegie-Illinois Steel Corp.**, and acting vice-president of the **United States Steel Corp.**, has been elected vice-president of sales of the latter company, with headquarters as before at Pittsburgh, Pa.

Charles F. Kells, formerly on the industrial engineering staff of the West Penn Power Company, has been appointed manager of the new post-war educational program of the **Electric Industrial Truck Association**, with headquarters in Pittsburgh, Pa.

According to **Ward Meyer**, president of **Timber Structures**, business will go on as usual and all orders for trusses and structural framing will be filled with only slight delays as a result of the fire that destroyed part of the company's Portland, Ore., plant on October 1.

Paul Dickinson, Inc., Chicago, has been acquired by **J. B. Hank** and **J. J. Hank**, heads of the **Conlon Corporation** and of the **Montgomery Elevator Company**, Chicago and Moline, Ill., and its name has been changed to the **Paul Dickinson Company**. **Arthur J. Filkins**, former head of **Paul Dickinson, Inc.**, remains as consulting manager.

Charles R. Hook, president of the **American Rolling Mill Company** and chairman of the board of the **Rustless Iron & Steel Corp.**, has announced that the boards of the two corporations have authorized the preparation of an agreement providing for the merger of **Rustless** into **American Rolling Mill**, subject to stockholders' approval. After the merger, to become effective at the year-end, the **Rustless** plant at Baltimore, Md., will be operated as the **Rustless Iron & Steel** division.

Thomas J. Hilliard, general manager of sales, has been elected vice-president in charge of sales of the **Carnegie-Illinois Steel Corporation**, U. S. Steel subsidiary. **J. Douglas Darby**, manager of sales in Philadelphia, Pa., has been appointed to succeed Mr. Hilliard as general manager of sales; **Wesley C. Bobbitt**, assistant manager of sales, has been appointed manager of sales in Philadelphia, and **A. Paul**

Selby, assistant to the general manager of sales, has been appointed assistant general manager of sales.

Herbert B. McKean, formerly of the U. S. Forest Products Laboratory, has been appointed assistant to the director of research of the **Timber Engineering Company**, Washington, D. C. Mr. McKean was graduated from the New York State College of Forestry, Syracuse, N. Y., in 1933. He remained on a fellowship and was awarded the master of forestry degree in 1934. He subsequently was employed with the T. J. Moss Tie Company, St. Louis, Mo., and later joined the faculty of Louisiana State University, teaching wood technology and use. He was graduated with a doctor's degree from Michigan University in 1941 and was appointed technologist at the Forest Products Laboratory in 1942.

The American Locomotive Company has purchased the **Beaumont Iron Works Company** of Beaumont, Tex., subject to the approval of the Beaumont stockholders. By this step, American Locomotive will acquire seven manufacturing plants in the United States and add to its facilities for servicing the oil industry in the southwest. The line of oil well drilling and production equipment now manufactured by Beaumont will be continued by American Locomotive, which will install added facilities at Beaumont for the servicing of its installations in this district. The **Jones & Laughlin Supply Co.**, subsidiary of the **Jones & Laughlin Steel Co.**, will continue as exclusive distributor of the Beaumont line for both domestic and export trade.

The Monroe Auto Equipment Company, Monroe, Mich., has announced an expansion of its factories to a point where 454,000 sq. ft. of floor space will be available, more than three times the space available in 1940 and ten times the space used in 1937. Major steps in this expansion include a new plant purchased in Hillsdale, Mich., for the production of truck seats and for molding and compounding rubber, and enlargement of two plants in Monroe.

E. Eugene Adams, pioneer designer of streamliner trains, has retired as vice-president in charge of transportation research of **The Pullman Company** and **Pullman, Inc.** Mr. Adams was born at Watertown, Mass., and is a graduate of the University of California. In 1905 he entered railway service as a mechanic of the Southern Pacific and subsequently held several other positions until he was promoted to consulting engineer of the Southern Pacific and the Union Pacific, with headquarters at Chicago and New York. When these two systems were separated in 1913 Mr. Adams was appointed consulting engineer of the U. P., at New York, being granted leave of absence in 1917 to serve as assistant director of capital expenditures for the U. S. Railroad Administration, with headquarters at Washington, D. C. In January, 1920, he returned to the Union Pacific and was promoted to assistant to the president in charge of purchases, engineering and standards, with headquarters at Omaha, being elected a vice-president on September 14, 1929. Four years later he resigned to join the Pullman organization.

Equipment and Supplies

LOCOMOTIVES

The **ST. LOUIS-SAN FRANCISCO** has petitioned the United States District court for permission to purchase three 4,000-hp. Diesel-electric road engines as part of a proposed spending of \$7,321,394 on post-war equipment for the road's passenger and freight service.

The **MISSOURI-KANSAS-TEXAS** and the **ST. LOUIS-SAN FRANCISCO** have each ordered from the Electro-Motive division of General Motors Corporation, two 2,000-hp. Diesel-electric locomotives for use on the "Texas Special" between St. Louis, Mo., and San Antonio, Tex.

FREIGHT CARS

The **ST. LOUIS-SAN FRANCISCO** has petitioned the United States District court for permission to purchase 300 50-ton, 40-ft. 6-in. automobile cars at a cost of \$1,639,500, and 200 70-ton hopper ballast cars at a cost of \$895,000. The petition also requests permission to build in the Frisco shops at Springfield, Mo., 100 70-ton covered hopper cars and 20 standard steel underframe cabooses. The hopper ballast cars will be purchased from the American Car & Foundry Co., while the automobile cars will be built by the Pullman-Standard Car Manufacturing Company.

PASSENGER CARS

The **PENNSYLVANIA** now has on order with its Altoona, Pa., shops 70 coaches, 5 double-unit dining cars, 5 lounge-buffet observation cars and 5 lounge-buffet baggage cars, for delivery in 1946. When received, these 90 cars will be used to re-equip the "Trail Blazer" and the "Jeffersonian," the road's over-night coach trains between New York and Chicago and St. Louis, Mo.

The **MISSOURI-KANSAS-TEXAS** and the **ST. LOUIS-SAN FRANCISCO** have placed orders with the Pullman-Standard Car Manufacturing Company for two twelve-car streamlined trains, each consisting of a baggage-mail car, two chair cars, a chair-lounge car, a diner, six sleeping cars and an observation lounge. The new trains will replace present equipment now operating on the "Texas Special" between St. Louis, Mo., and San Antonio, Tex., via these lines.

SIGNALING

The **GEORGIA RAILROAD** has placed an order with the Union Switch & Signal Co., covering the signal material required for the installation of absolute permissive block signaling between Augusta, Ga., and Atlanta, 145 miles of single track. The order includes Style H-2 searchlight signals, semaphore train order signals, Style HC-81 highway crossing signals, Style S-21 facing-point lock layouts, DN-11 track relays,

for top operating efficiency

To keep the "Big Boy", as well as smaller locomotives, at top operating efficiency, a complete brick arch should be maintained in the firebox at all times, so as to develop a maximum amount of steam from the fuel burned.

For thirty-six years Security Sectional Arches have been saving fuel on all types of locomotives, and the harder a locomotive is worked, the greater the proportional fuel saving.



**HARBISON-WALKER
REFRACTORIES CO.**
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

W-10 transformers, rectifiers, Style U-5 switch circuit controllers and housings. The field installation will be handled by railroad forces.

The CHICAGO, AURORA & ELGIN has placed an order with the Union Switch & Signal Co., covering signal material for enlarging the existing electric interlocking at Wheaton Junction, Ill., involving five color-light signals with M-22-A dual-control electric switch layout, etc., all to be controlled from a 10-lever Style B-30 interlocking machine. The field installation work will be handled by railroad forces.

Financial

ALTON.—Promissory Notes.—Division 4 of the Interstate Commerce Commission has authorized this road to issue \$599,000 of promissory notes in evidence, but not in payment, of the unpaid portion of the cost of 250 50-ton gondola cars, purchased under a conditional sale agreement from the General American Transportation Corporation at \$2,995 each. The unpaid balance has been financed through the First National Bank of Chicago on a 1.9 per cent interest basis.

BALTIMORE & OHIO.—Promissory Notes.—This company has applied to the Interstate Commerce Commission for authority to issue \$1,200,000 of series I promissory notes in connection with the purchase from the Pressed Steel Car Company of 500 50-ton hopper cars at \$2,797 each.

ILLINOIS TERMINAL.—Divestment of Control.—This company has applied to the Interstate Commerce Commission for approval of a series of transactions whereby a new company of the same name will succeed to ownership of its properties and the Illinois Power Company will be divested of its ownership of the carrier's securities. The power company now holds \$25,000,000 of the carrier's common stock and \$13,500,000 of its first and refunding mortgage 4 per cent bonds due in 1967. The new Illinois Terminal Railroad will assume the old company's funded debt, consisting of this bond issue and \$957,000 of equipment trust certificates, and will pay \$4,100,000 for the property, making it possible to dissolve the old company. The present Illinois Terminal bonds will be modified and sold as series A 25-year first mortgage 4 per cent bonds, due in 1970, while 500,000 shares of the common stock of the new company will be sold at a price between \$4,375,000 and \$5,000,000.

KANSAS CITY SOUTHERN.—Refunding.—This company has applied to the Interstate Commerce Commission for authority to issue \$40,000,000 of series A first mortgage bonds due in 1975 and \$6,000,000 of unsecured promissory notes, the proceeds of which, with other funds, are to be applied to the redemption of \$26,950,000 of K. C. S. 3 per cent first mortgage bonds due in 1950; \$6,944,000 of Texarkana & Fort Smith series A 5½ per cent first mortgage bonds; \$1,114,000 of K. C. S. secured serial 3 per cent notes; and \$7,700,000 of

K. C. S. 2½ per cent promissory notes. In addition, the road's treasury would be reimbursed for its redemption of \$3,000,000 of Kansas City & Grandview 4½ per cent first mortgage bonds due in 1950. Authority was requested in this connection to pledge under the first mortgage all the outstanding stocks of the Louisiana & Arkansas, including 160,000 shares of common, 40,000 shares of preferred, and 60,000 shares of cumulative prior preferred.

LEHIGH & NEW ENGLAND.—Refunding.—This company has applied to the Interstate Commerce Commission for authority to issue \$4,000,000 of series B first mortgage bonds, due in 1975, the proceeds of which, with other funds, including \$1,000,000 advanced by the Lehigh Coal & Navigation Company, are to be employed to redeem all outstanding L. & N. E. bonds, consisting of \$5,011,000 of series A 4 per cent general mortgage bonds, due in 1965, in the hands of the public and \$621,000 of the same issue in the company treasury. The series A issue is callable at 105.

NEW YORK CONNECTING.—Bonds.—This company and the Pennsylvania and New York, New Haven & Hartford, which control it by ownership of its capital stock, have applied to the Interstate Commerce Commission for authority to issue and to guarantee, respectively, \$25,982,000 of series B first mortgage bonds due in 1975. The interest rate is to be determined by competitive bidding and the proceeds, with other funds, are to be applied to the redemption at 106 of an equal principal amount of series A first mortgage 3½ per cent bonds due in 1965.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—Refunding.—This company has applied to the Interstate Commerce Commission for authority to issue \$40,312,000 of series D refunding and improvement mortgage bonds, due in 1985, the interest rate to be determined by competitive bidding for sale at not less than par. The proceeds and other funds are to be used to redeem \$34,000,000 of 4 per cent general mortgage refunding sinking fund gold bonds due in 1953, callable at 110, and \$6,375,000 of series B 3½ per cent refunding and improvement mortgage bonds due in 1974, callable at 107, these being the entire amounts outstanding in the hands of the public. In addition, \$11,983,000 of bonds pledged as collateral are to be cancelled. Supplemental applications are being filed by the proprietary railroads, each for authority to guarantee its pro rata portion of the new issue, this portion being one-sixteenth except in the case of the Missouri Pacific, for which it is two-sixteenths.

WESTERN MARYLAND.—Refunding.—This company has applied to the Interstate Commerce Commission for authority to issue \$9,500,000 of collateral trust bonds, the proceeds of which, with other funds, are to be applied to the redemption at 105 of \$11,614,000 of series A first and refunding mortgage 5½ per cent bonds due in 1977. The collateral bonds will mature at the rate of \$500,000 annually from 1947 to 1959, the remaining \$3,000,000 being due in 1960, and the interest rate will vary from 1¼

per cent to 3¼ per cent, depending on the maturity date. At the same time, the company asked authority to pledge \$14,250,000 of treasury-held first and refunding mortgage bonds to support the collateral issue.

Average Prices Stocks and Bonds

	Oct. 2	Last week	Last year
Average price of 20 representative railway stocks	58.70	58.10	40.72
Average price of 20 representative railway bonds	98.10	97.71	89.32

Dividends Declared

Atchison, Topeka & Santa Fe.—\$1.50, payable on December 1, to holders of record October 26.
Atlantic Coast Line.—5% preferred, \$2.50, semi-annually, payable November 10 to holders of record October 23.
Cleveland, Cincinnati, Chicago & St. Louis.—preferred, \$1.25, quarterly, payable October 31, to holders of record October 10.
Dover & Rockaway.—\$3.00, semi-annually, payable October 1 to holders of record September 29.
Kalamazoo, Allegany & Grand Rapids.—\$2.95, semi-annually, payable October 1 to holders of record September 15.
Sharon.—\$1.00, payable October 1 to holders of record September 22.
Vermont & Massachusetts.—\$3.00, semi-annually, payable October 8 to holders of record September 27.
Wheeling & Lake Erie.—cv. pf., \$1.37½; pr. ln., \$1.00, both quarterly, both payable November 1 to holders of record October 19.

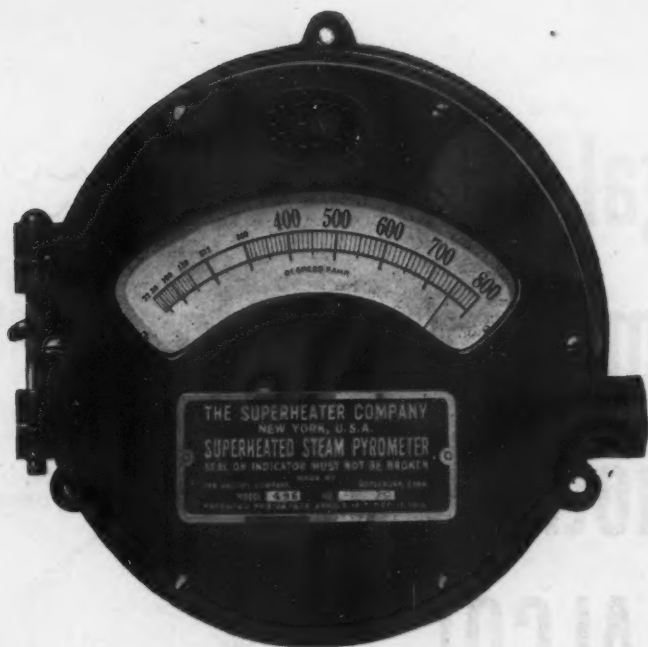
L. & N. INVITES PUBLIC CONFIDENCE.—"How the L. & N. Aids Southern Progress" is suggested in an advertisement recently run by the Louisville & Nashville in over 300 newspapers along its lines. The L. & N. message observes that the railroad has been a factor in developing southern resources since 1850, and it points to the \$85 million in salaries and wages which it paid in 1944, a factor "which energized commerce, agriculture and social progress." Its taxes last year (local, state and national) amounted to more than \$63 million, and the railroad made purchases of more than \$33 million, "thus stimulating industry, manufacturing and trade of every nature," it is explained. In conclusion, the railroad expressed its desire "to serve satisfactorily and to deserve public patronage and confidence."

Said the Cat to the Brakeman

You watch your step like I watch mine. Because you have one life - I have nine. If you lose your life it's just too late. But if I lose one I still have eight.

Courtesy, Safety for Railway Fans

Poster No. 265, October Installment of the "All the Year—Every Year Safety Program," Which Is Now Being Distributed by the Committee on Education, Safety Section, A. A. R.



- Essential -

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

60 East 42nd Street, NEW YORK

122 S. Michigan Ave., CHICAGO

Montreal, Canada, THE SUPERHEATER COMPANY, LTD.

Knowing the temperature of the steam leaving the superheater is a check on boiler, superheater and cylinder performance.

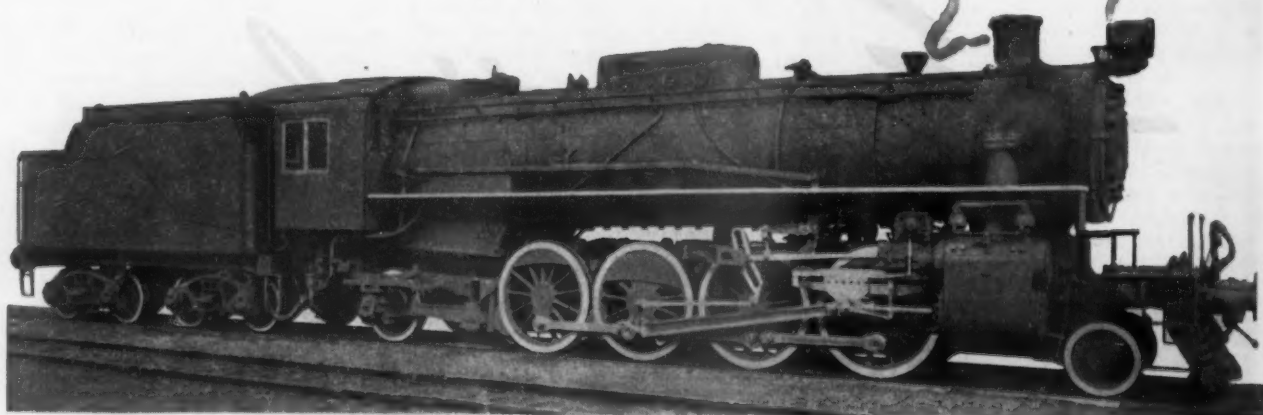
Superheated steam pyrometers are as essential as the steam gage...every locomotive should be equipped.



A-1741

Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • American Throttles

Portugal orders its First American-made locomotives from ALCO!



ONE OF NEW ALCO locomotives in passenger service.

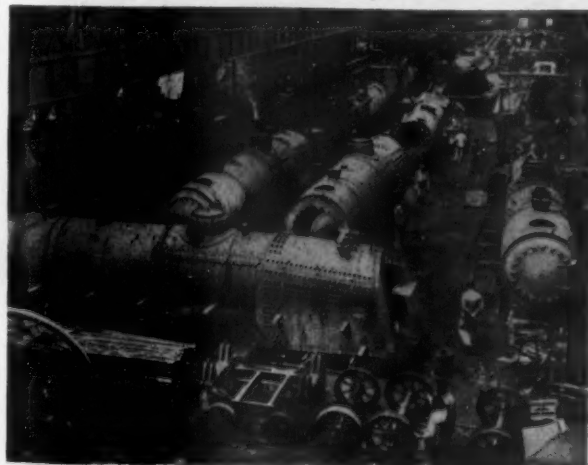
THESE 22 ALCO locomotives are the first ever bought by Portugal from any American builder. They are part of a general rehabilitation plan of the Portuguese roads, which has been jointly undertaken by the government-owned lines and private railways. Delivered this summer, these ALCO 2-8-2 locomotives are hauling passenger and freight over difficult, mountainous terrain.

Eight of the 22 will run between Lisbon and Oporto; six between Lisbon and southern Portugal; two between Figueira da Foz and Villar Formoso; and six between Lisbon and northern Portugal. Typical of the freight hauled are: cork, wine, fertilizer, harvest crops, coal, oil, tin, copper, olive oil, canned fish, and mine props.

The railroads of Portugal are among the most progressive in Europe. Their shops at Barreiro and



LOCOMOTIVE WHEELS being unloaded in Portugal.



BOILER AND WHEEL assembly operation in the shops at Lisbon.

★ ★ ★

Lisbon, to which these new ALCO locomotives were shipped, are very modern.

Although the locomotives are fitted for oil-firing, coal-firing equipment was included with the shipment to allow change-over to coal as soon as the latter is available in quantity.

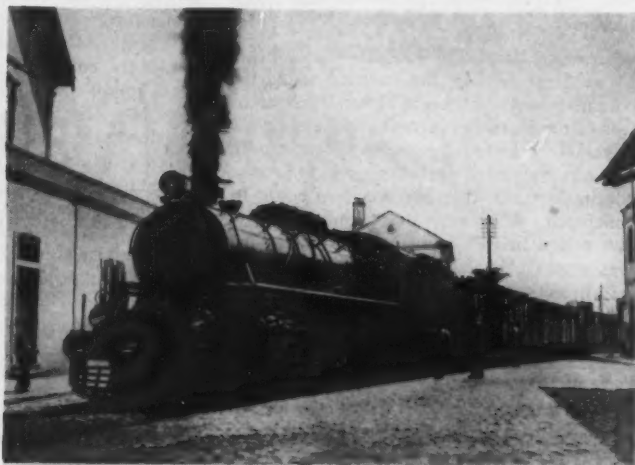
ALCO locomotives are in service the world over. ALCO is prepared to supply standard units, or build locomotives of special design, to meet any railroad operating requirements in any territory on earth.

SPECIFICATIONS:

Weight on Drivers	141,000 lbs.
Weight of Engine	195,500 lbs.
Cylinders	21 x 28 ins.
Diameter of Drivers	60 ins.
Boiler Pressure	200 lbs.
Tractive Power	35,000 lbs.
Capacity (Water)	4800 gals.
Capacity (Fuel)	3,150 gals.



ALCO LOCOMOTIVES completely assembled and ready to leave the shops.



ONE OF THE ALCO locomotives being used to haul freight to Oporto.

American Locomotive



THE MARK OF MODERN LOCOMOTION

Abandonments

Burlington Case Conditions Are Interpreted by Division 4

With a view to "clarifying" certain interpretations put upon the conditions for the protection of employees adversely affected by railway abandonments which Division 4 of the Interstate Commerce Commission prescribed in the so-called *Burlington Case*, 257 I. C. C. 700 (as reported in *Railway Age* of November 18, 1944, page 799), and which have since been taken as a precedent in the disposition of other cases, the division has departed from its regular practice to explain the precise scope it intended some of these conditions to have.

This amplification of the Burlington case conditions was in the division's report making them effective with respect to the abandonment by subsidiaries of the Seaboard Air Line of two branches in Florida, one from Alva to LaBelle, 12.09 miles, and one from Punta Rassa Junction to Naples, 27.49 miles. When the certificate authorizing the abandonments was issued on November 16, 1942, jurisdiction was reserved as to the imposition of conditions for the protection of employees, and this certificate has now been modified to impose the Burlington "formula." The proceeding was reopened on petition of the Order of Railroad Telegraphers as the term of the jurisdiction reservation was about to expire, so that further consideration might be given the need for prescribing protective conditions therein.

General Inquiry Sought—At a hearing after reopening, the railroad asked the commission to institute a general investigation of the matter of protection of employees adversely affected by abandonments, with the reservation of jurisdiction in this case continuing until that investigation could be concluded. A case involving only one carrier and a limited number of employees, it was argued, "is a wholly inadequate vehicle for litigation of controversial issues, the decision of which will have its impact upon the entire railroad industry of the nation," and adoption of the Burlington conditions as a "code or formula" to be applied generally in abandonment cases, except those involving the entire line of a carrier, was objected to on that ground. The division overruled the motion for a general investigation, but considered the road's arguments.

The Seaboard advanced the contention that, in the case under consideration, the employees whom the unions said were adversely affected had received full pay for three years during which the lines were operated at losses before authority to abandon was sought. The 4-year protective period provided in the Burlington "formula," therefore, it asserted, had the effect of guaranteeing employees unimpaired wages for at least 7 years after the property that furnished their employment had lost its earning power. Further, it said, the extraordinary conditions resulting from the war, which had resulted in overtime much in excess of what would be performed in normal times, would result, under the "formula," in a displacement allowance granting the displaced employee compensa-

tion for services not performed, if he works straight time in his new position.

"Voluntarily Idle" Employees—Another argument advanced by the carrier against application of the Burlington conditions dealt with the requirement that allowances be based on the employee's compensation in the 12 months worked prior to the abandonment, without regard, as the road interpreted it, to whether he was voluntarily idle or engaged in other work on occasions when his railroad employment was interrupted. It was also argued that the prescribed provisions for allowances would permit the employee to remain voluntarily idle unless he should fail or refuse to exercise his seniority. Moreover, the railroad contended, the provision protecting a transferred employee against loss in connection with the disposition of his home left him free to acquire one after notice of an abandonment proposal, with a chance of profit and no risk of loss.

Turning finally to the question of procedure, the carrier argued that the Burlington "formula" had been prescribed without the commission's consideration of any evidence that would support the conclusion that such conditions were required by the public convenience and necessity, and without measuring the merits and demerits of the conditions against the evidence brought out in a full hearing devoted solely to their lawfulness, reasonableness, propriety, nature and extent.

Dismissal Allowance—In its interpretations of the Burlington "formula," the division took up several of these arguments. The dismissal allowance ceases, it pointed out, if the employee fails to take a position he is qualified to fill and for which he is eligible. Eligibility, in this instance, the division said, "is not controlled by his seniority rights." His eligibility would be determined primarily by the rules governing the work offered him, and such work need not be of the same character as was previously performed, or on the same division or operating unit.

The suggestion that an employee might profit by acquiring a home after abandonment proceedings are undertaken is, the division said, "without foundation," because it is provided that the fair value of the property be determined as of a date sufficiently prior to the abandonment to be unaffected thereby. "In our judgment it is within the power of the carriers to hold to a minimum any costs which they might be called on to assume because of the effects of abandonments upon their employees," the report added. "Because we recognized that it was impossible to prescribe conditions which would permit exact justice in each instance of displaced or dismissed employees, and effects on home investments of employees, we prescribed methods or machinery whereby the carriers and their employees can amicably adjust any difficulties which may arise. In our opinion these arbitration provisions are sufficient to permit equitable adjustments."

Hardship Must Be Shown—At the same time, the division failed to accept the unions' contention that it should automatically impose conditions without regard to the evidence, or lack of it, in particular

cases, simply because "employee protection is a necessary factor in the national transportation policy." The division's view was that, "unless there is evidence that employees may be adversely affected, there is no basis for our consideration of those questions." In the Burlington case, it went on to say, the evidence was sufficient to warrant the imposition of conditions. The report then reviewed the evidence in the case before it, and concluded that "some adverse effect was suffered by an employee or employees," whereupon the division found that the Burlington conditions should be imposed. However, it added, "in view of the statements of the parties that they can ascertain or determine those rights if we prescribe a guide for that purpose, it is not necessary for us to attempt to award specific amounts or to require additional evidence to permit such determination by us."

PACIFIC ELECTRIC—Division 4 of the Interstate Commerce Commission has authorized this company to abandon a 0.46 mile line in the city of Santa Ana, Calif.

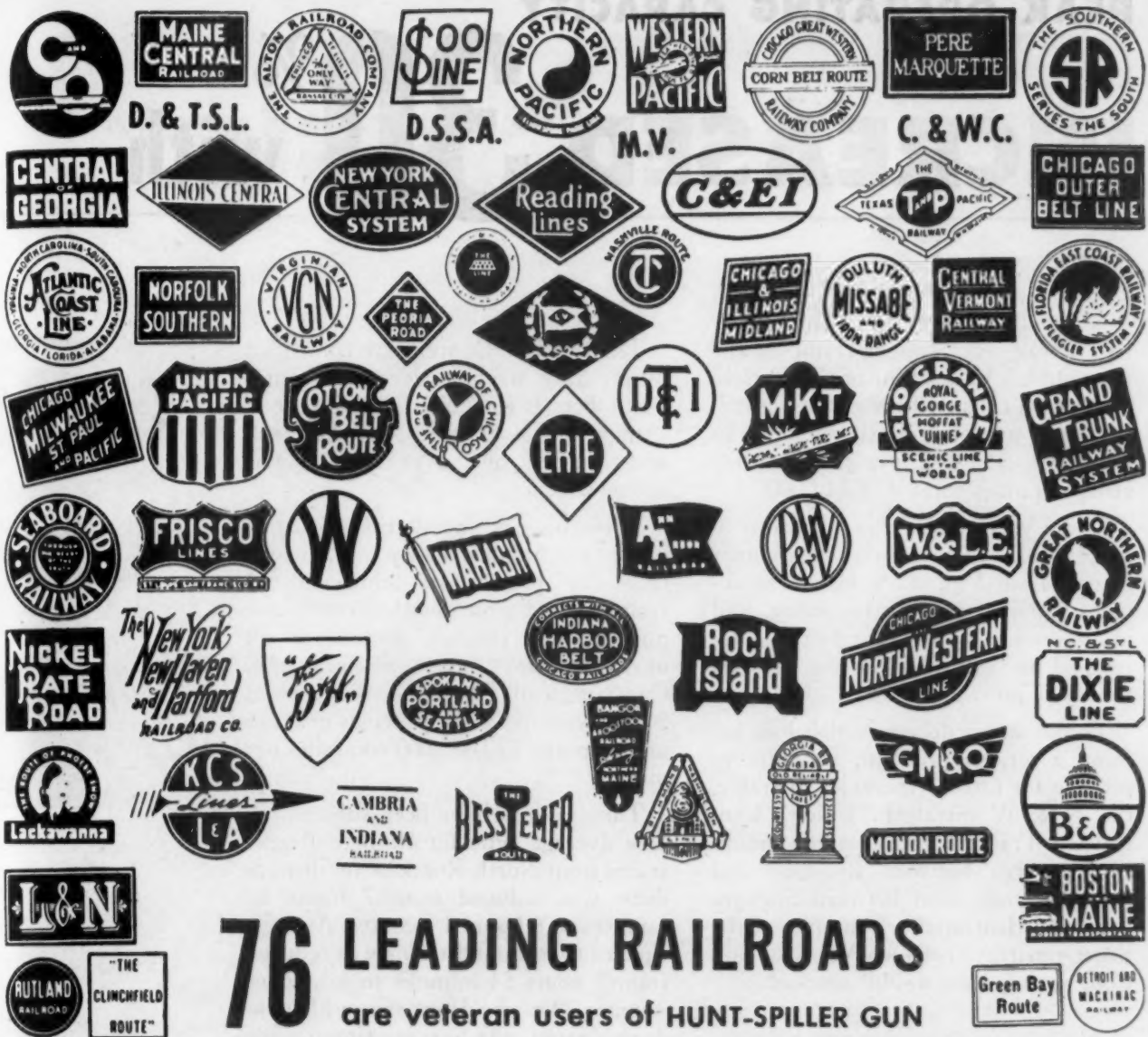
ST. LOUIS SOUTHWESTERN—This road has applied to the Interstate Commerce Commission for authority to abandon a portion of a branch from Trumann, Ark., to McDonald, 31.12 miles.

SEABOARD AIR LINE—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a branch from Lydia, S. C., to Timmonsville, 17.1 miles, on condition (1) that the Atlantic Coast Line, which also serves Timmonsville, be allowed 40 days in which to offer to purchase the S. A. L. terminal facilities at that point, at not less than salvage value, before the abandonment thereof, and (2) that the provisions for the protection of any employees adversely affected which were prescribed in the Burlington case, 257 I. C. C. 700, also be observed in this instance. The carrier had asked for a general investigation on the subject of employee protection in abandonment cases, but its motion therefor was overruled by the division. Imposition of the Burlington conditions was asked by four railway unions, and the division found that the abandonment will affect two agent-telegraphers, five maintenance of way employees, and trainmen with respect to their overtime. The application was opposed by the South Carolina Public Service Commission, but the division held that the branch was operated at substantial system losses during the past four years and that there are no prospects of future traffic sufficient to permit profitable operation.

SOUTHERN PACIFIC—This company has applied to the Interstate Commerce Commission for authority to abandon a 1.46-mile portion of a branch at Pomona, Calif.

TUCKASEEGEE & SOUTHEASTERN—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its entire line from Sylva, N. C., to East LaPort, 12.18 miles, the traffic now available, following depletion of the timber supply in the adjacent territory, being insufficient to warrant continued operation.

WESTERN MARYLAND—This company and the Somerset Coal Railway have been au-



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IRON—many of them for more than 35 years.

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PEAK OPERATING CAPACITY

INCREASED 30% with

In pre-war years, freight traffic on the Shenandoah Valley Line of the Norfolk & Western consisted mainly of agricultural and manufactured products. In February, 1939—a typical month—gross ton miles totaled 91,213,000.

Three years later, this had risen to 180,452,000. Then overland shipment of coal from Virginia fields to north-eastern points became necessary, and in February, 1943, total ton-miles jumped to 558,557,000—more than six times the pre-war traffic.

To cut down delays, which had become a serious problem, and also to provide for further increases in traffic, the N & W installed "Union" Centralized Traffic Control in the mountainous area between Roanoke and Stuart's Draft, and between Shenandoah and Bentonville. Ten miles of the worst territory, between Vesuvius and Cold Spring, were double-tracked.



The two C.T.C. areas are controlled by separate machines located in adjacent offices at Roanoke. Through use of "Union" Coded Carrier Control, both areas are controlled over the same pair of line wires.

With this new installation 45 trains a day are handled easily and, in one three-day period, an additional 44 trains routed from another road gave no particular trouble. Practically all operating delays have been eliminated. Operating capacity has been increased 30 per cent above the previous peak, to an estimated 720,000,000 ton-miles per month.

Time savings have been substantial. The average time for through freight trains from North Roanoke to Shenandoah was reduced from 7 hours 18 minutes to 6 hours 4 minutes. Average time of southbound trains was reduced from 7 hours 54 minutes to 6 hours 5 minutes. On the Hagerstown-Shenandoah district, the average time saving for northbound trains was 33 minutes, for southbound, one hour.

Savings in running time have been reflected in reduced operating costs, particularly in the reduction of overtime. Shorter running time, better meets, and the virtual elimination of stops by heavy trains on ascending grades have resulted in lower fuel consumption.

"Union" engineers will be glad to cooperate with you in determining areas where C.T.C. can profitably be used in your post-war operation.

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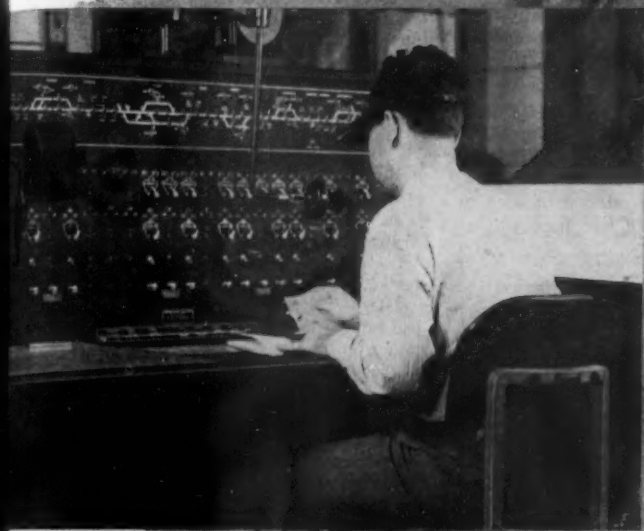
CHICAGO

ST. LOUIS

SAN FRANCISCO



"UNION" C.T.C.



thorized by Division 4 of the Interstate Commerce Commission to abandon operation of and abandon, respectively, a branch from a point near Gray, Pa., to Ankeney, 0.93 miles.

Railway Officers

EXECUTIVE

Ernest S. Marsh, assistant to the president of the Atchison, Topeka & Santa Fe at Chicago, has been promoted to executive assistant to the president, with the same headquarters, succeeding **Nelson W. Willard**, who has retired after 40 years of service. **James N. Dougan**, land and tax commissioner at Galveston, Tex., has been advanced to assistant to the president, with headquarters at Chicago, relieving Mr. Marsh.

C. McD. Davis, vice-president of the Charleston & Western Carolina (a subsidiary of the Atlantic Coast Line) at Wilmington, N. C., has been elected president, succeeding **George B. Elliott**, who has resigned. **F. W. Brown** has been elected vice-president. Mr. Davis has also been elected president of the Atlantic Land & Improvement Co. (another A. C. L. subsidiary) replacing Mr. Elliott; and Mr. Brown and **F. D. Lemmon** have been named vice-presidents.

James N. Dougan, whose promotion to assistant to the president of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, was reported in the *Railway Age* of October 6, was born at Cleburne, Tex., and attended the Daughterty's School of Business at Topeka, Kan. He entered railway service in May, 1913, as a mail clerk in the office of the division superintendent at Beaumont, Tex., and served in various clerical capacities at that point until 1923 when he was appointed a clerk in the office of the tax department at Galveston, Tex. In 1926 Mr. Dougan was promoted to assistant land and tax commissioner, and in February, 1940, he was advanced to land and tax commissioner, the position he held at the time of his new appointment.

FINANCIAL, LEGAL AND ACCOUNTING

H. P. Gill, munitions accountant of the Canadian Pacific's Angus shops at Montreal, Que., has been appointed general accountant there, succeeding **F. E. Skinner**, who has retired after 40 years of service.

W. D. Steele, assistant secretary and assistant treasurer of the Wabash and the Ann Arbor at New York, has been appointed treasurer and assistant secretary there.

D. F. Curry, acting auditor of revenues of the Duluth, South Shore & Atlantic, the Mineral Range, and the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, Minn., has been promoted to auditor of

revenues of the three roads, with the same headquarters.

C. A. Casler, whose retirement as auditor of the Panhandle & Santa Fe (part of the Santa Fe System) was reported in the *Railway Age* of September 15, entered railway service as an enginehouse employee of the Atchison, Topeka & Santa Fe at Topeka, Kan., later resigning to complete his education and to teach school upon graduation. He returned to the Santa Fe in 1900 as a member of the audit office at Topeka, and in 1907 he was promoted to division accountant, with headquarters at Pueblo, Colo. Three years later Mr. Casler became chief clerk to the superintendent, with the same headquarters, and in 1911 he was appointed assistant chief clerk of the statistician's office, with headquarters at Chicago. In 1919 he was advanced to statistician for the system at Topeka, and later he was further advanced to assistant to the general auditor, being promoted in 1938 to the position he held at the time of his retirement.

R. D. Ewers, whose promotion to auditor of the Panhandle & Santa Fe (part of the Santa Fe System) with headquarters



R. D. Ewers

at Amarillo, Tex., was reported in the *Railway Age* of September 15, was born at Readstown, Wis., in 1904 and received his higher education at the University of Southern California and the Northwestern University School of Commerce. He entered railway service in 1923 in the audit office of the Atchison, Topeka & Santa Fe at Los Angeles, Cal. On December 1, 1937, he was transferred to the general auditor's office at Chicago, and on November 1, 1944, he was promoted to chief clerk to the auditor, with headquarters at Topeka, Kan., the position he held at the time of his new appointment.

R. M. Liversidge, assistant purchasing agent of the Lehigh & New England and affiliated companies at Philadelphia, Pa., has been appointed purchasing agent with the same headquarters succeeding **J. R. Bennington**, who has retired after more than 36 years' service.

R. D. Plumley, comptroller of the Rutland at Rutland, Vt., has been appointed treasurer for trustees in addition to his

duties as comptroller. He succeeds **R. C. Arnoll**, deceased. **M. S. Gooding**, assistant treasurer for trustees, has also been named secretary for trustees, succeeding Mr. Arnoll, and **J. E. Hayward** has been appointed assistant to treasurer for trustees.

OPERATING

K. C. Shults has been appointed trainmaster of the Southern at Charlottesville, Va.

A. C. McCarthy, superintendent of car service of the Grand Trunk Western at Detroit, Mich., has been promoted to superintendent of transportation, with the same headquarters. The position of superintendent of car service has been abolished.

C. B. Callaham has been appointed acting superintendent of the Southern division of the St. Louis-San Francisco, with headquarters at Memphis, Tenn., succeeding **J. A. Moran**, who has been granted a leave of absence due to illness.

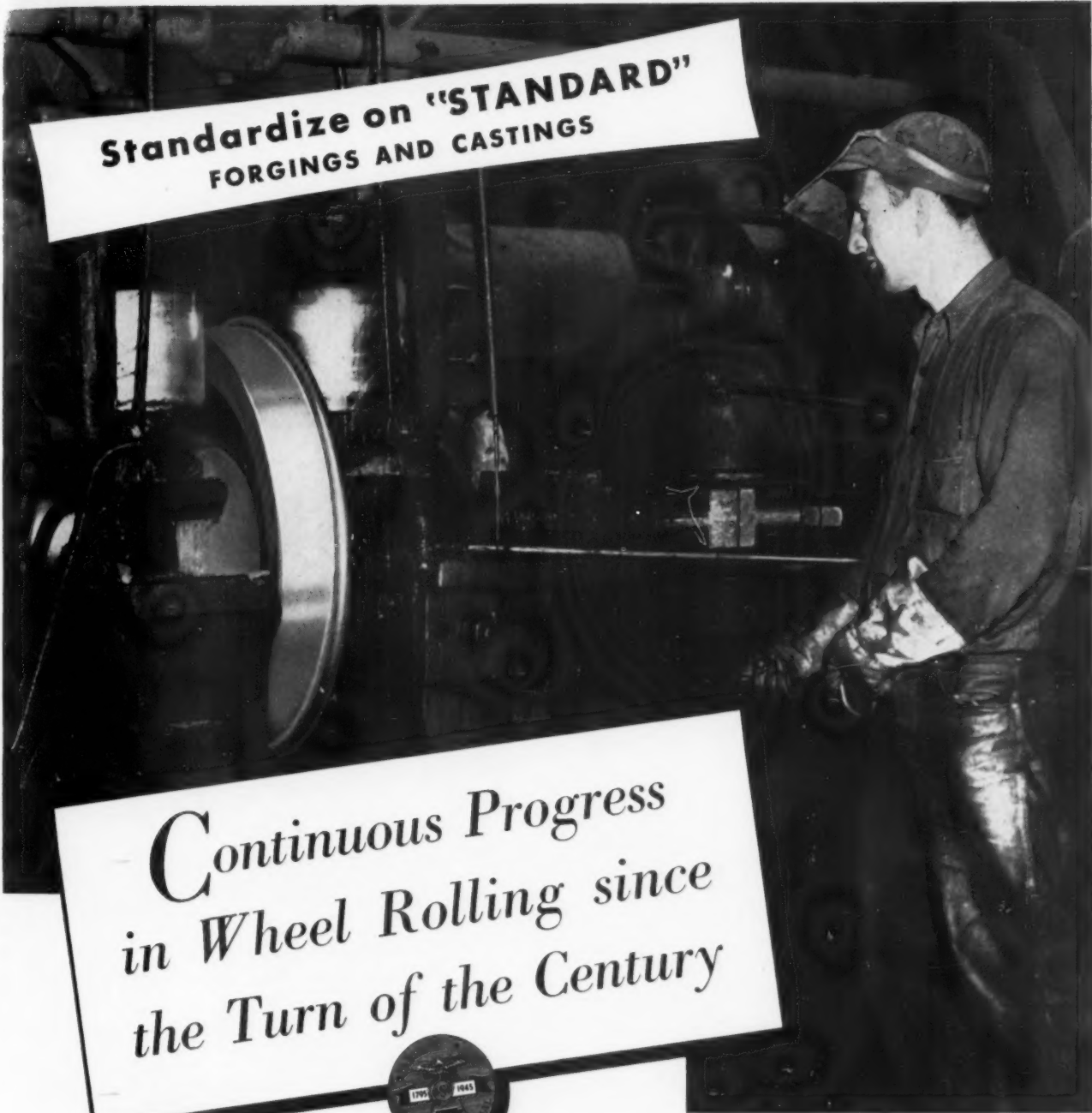
P. D. Robinson has been appointed assistant superintendent of the San Joaquin division of the Southern Pacific, at Bakersfield, Cal., succeeding **W. D. Lamprecht**, whose promotion to assistant manager of personnel is reported elsewhere in these columns.

Walter M. Templeton, assistant to the president of the Chicago & Eastern Illinois at Chicago, has been promoted to superintendent of the system, with headquarters at Danville, Ill., succeeding **E. R. Glidden**, who has retired. Mr. Templeton was born at Woonsocket, S. D., on December 20, 1902, and entered railroad service in September, 1922, as trainmaster's clerk on the Butte division of the Great Northern at Great Falls, Mont. From March, 1923, to December, 1924, he served as clerk and stenographer in the office of the superintendent of the same division, leaving to become secretary to the assistant to the general manager of Lines West of the Chicago, Milwaukee, St. Paul & Pacific at



Walter M. Templeton

Butte, Mont. Less than a year later he became secretary to the operating vice-president of the Milwaukee in Chicago, and in December, 1926, he went with the Chicago & Eastern Illinois as secretary to



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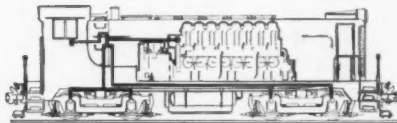
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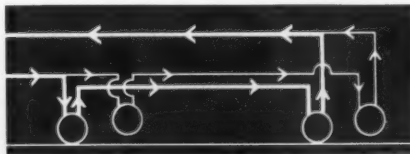
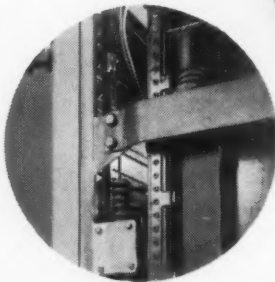


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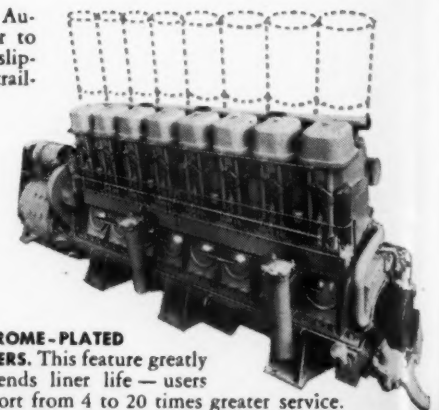
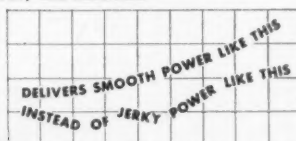
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AUTO TEMPERATURE CONTROL. Automatically maintains engine temperature at proper point for peak performance, winter or summer.



1-3, 2-4 MOTOR HOOKUP. Automatically reduces power to leading wheels in case of slipping, increases power to trailing wheels.

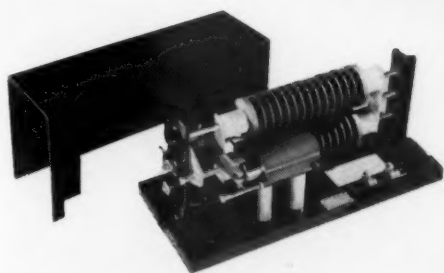
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September 27, 1945

the president. In July, 1938, Mr. Templeton was named chief clerk to the president and in June, 1939, he was appointed assistant secretary. In December, 1942, he was promoted to the position he held at the time of his new appointment.

Cedric S. Hill, assistant to manager freight transportation of the New York Central at New York, has been appointed superintendent stations and motor service with the same headquarters, and **Karl L. Metzman** has been named to succeed him. **Perry Rumsey**, superintendent stations and transfers at New York, has retired after more than 43 years of service.

Lester Wittnebert, terminal agent of the Jersey Central Lines at Jersey City, N. J., has been appointed supervisor of station operation of the Central division at Jersey City, a newly created position. In his new capacity Mr. Wittnebert will assume the former duties of **J. K. Larkin**, supervisor of agents, who has been appointed general agent at Newark, N. J.

E. L. Dunbar, superintendent of terminals of the Southern at Meridian, Miss., has been promoted to superintendent of the New Orleans Terminal Company (part of the Southern), with headquarters at New Orleans, La., succeeding **C. P. Chambers**, who has retired after 52 years of service. **L. L. Waters** has been appointed superintendent of terminals, with headquarters at Meridian, relieving Mr. Dunbar.

Howard Ginter, superintendent of passenger transportation of the Pennsylvania at Chicago, has been promoted to assistant to the general manager, western region, with the same headquarters, a newly-created position. **Boyd Wilson**, assistant superintendent of freight transportation, central region, at Pittsburgh, Pa., has been advanced to superintendent of passenger transportation at Chicago, succeeding Mr. Ginter, and **Charles E. Alexander**, superintendent of the Columbus division, with headquarters at Columbus, Ohio, has been promoted to superintendent of the labor and wage bureau, western region, with headquarters at Chicago, relieving **Thomas R. Colfer**, who has been transferred to New York, as superintendent of the labor and wage bureau, New York zone.

Jacob D. Fuchs, superintendent of the Indianapolis division, at Indianapolis, Ind., has been transferred to Columbus, replacing Mr. Alexander, and **Thomas E. Boyle**, division engineer of the Philadelphia Terminal division, at Philadelphia, Pa., has been advanced to superintendent at Indianapolis, succeeding Mr. Fuchs.

Clyde W. Pace, whose promotion to general superintendent of transportation of the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of September 29, was born at Knobnoster, Mo., on August 8, 1893, and entered railway service as a telegraph operator of the Missouri Pacific on October 10, 1910. In 1915 he was advanced to train dispatcher at Jefferson City, Mo., later serving as night chief dispatcher at that point and as chief dispatcher at Osawatimie, Kan. On May 20, 1925, Mr. Pace was advanced to trainmaster, with headquarters at Coffey-

ville, Kan., and one year later he was promoted to inspector of transportation at St. Louis. He later served as assistant superintendent at Pueblo, Colo., and Atchison, Kan., and on August 1, 1939, he was advanced to division superintendent, with headquarters at Poplar Bluff, Mo. In 1942 he was transferred to Kansas City, Mo., and in the same year he became a deputy associate director of the Office of Defense Transportation at St. Louis. On May 1, 1943, Mr. Pace was advanced to assistant general superintendent of transportation, the position he held at the time of his new appointment.

TRAFFIC

C. W. Russell has been appointed coal traffic representative of the Wheeling & Lake Erie and the Lorain & West Virginia with headquarters at Cleveland, Ohio.

Alfred Fynn, whose appointment as general passenger agent of the Erie at Cleveland, Ohio, was announced in the *Railway Age* of September 22, was born at Oakland, Cal., on February 16, 1899. Mr. Fynn entered railroading in 1917 with



Alfred Fynn

the Erie as a freight clerk at Chicago. With the exception of three years spent in the passenger department of the Chicago, Indianapolis & Louisville, he has served with the Erie ever since. Mr. Fynn was serving as assistant general passenger agent at Cleveland at the time of his appointment.

Walter M. Randall, general freight agent of the Baltimore & Ohio at New York, has been appointed general perishable and live stock agent at Baltimore, Md.

W. G. McPherson, whose retirement as assistant superintendent motive power, Eastern lines, of the Canadian Pacific at Toronto, Ont., was announced in the *Railway Age* of September 8, entered railroading with the Canadian Pacific on November 13, 1901, as a fitter at Revelstoke, B. C.; and he served subsequently at Cranbrook, B. C., and Calgary, Alta., until February 21, 1910, when he was promoted to locomotive foreman at Hardisty, Alta. After being located at several points in western territory, he was appointed district master mechanic at North Bay, Ont., on January 1, 1929, and on June 1, 1935, he was named assistant superintendent motive power, at

Montreal, Que., transferring in May, 1937, to Toronto, where he remained until his recent retirement.

Terah J. Stewart, general passenger agent of the Central of Georgia at Savannah, Ga., has been appointed passenger traffic manager there. Mr. Stewart, who was born at Thomaston, Ga., on March



Terah J. Stewart

11, 1893, entered railroading with the Central of Georgia on May 9, 1913, as stenographer in the car accountant's office at Savannah, and was transferred to the passenger traffic department on May 13, 1914, where he served in various clerical capacities in the general passenger agent's office at Savannah until March 1, 1920, when he was appointed traveling passenger agent at Atlanta, Ga. Mr. Stewart was promoted to district passenger agent at Atlanta on September 16, 1925, and to division passenger agent there on November 1, 1928. He returned to Savannah as assistant general passenger agent on January 1, 1937, and in November, 1938, he was named general passenger agent there, the position he held at the time of his recent advancement to passenger traffic manager.

R. C. Winchester, whose appointment as traffic manager of the Lehigh & Hudson River at Warwick, N. Y., was announced



R. C. Winchester

in the *Railway Age* of September 22, was born at Phoenixville, Pa., in 1905, and was graduated from Lehigh University in 1926, receiving an M. B. A. degree in railroad

transportation from the Harvard Graduate School of Business Administration in 1928. On August 1, 1928, he entered railroad service as a tariff clerk in the general office of the Pennsylvania at Philadelphia, Pa., being promoted to rate clerk in 1929, and to rate and diversion clerk in the division freight agent's office at Philadelphia in 1930. He was appointed freight representative in the division freight agent's office at Baltimore, Md., in 1936, and was transferred to York, Pa., in 1938. In 1939 Mr. Winchester returned to Philadelphia as coal freight representative, holding this position until 1940, when he was named district freight agent at Scranton. In April, 1943, he joined the Lehigh & Hudson River as general freight agent at Warwick, the position he held at the time of his recent promotion to traffic manager.

George F. Hardy, general freight agent of the Great Northern at San Francisco, Cal., has been promoted to western traffic manager, with headquarters at Seattle, Wash., succeeding **B. S. Merritt**, who has retired after 40 years of service. **James J.**



George F. Hardy

Woulfe, assistant general freight agent at St. Paul, Minn., has been advanced to general freight agent, with headquarters at San Francisco, replacing Mr. Hardy, and **Ralph P. Reed**, general agent, freight department, at Kansas City, Mo., has been promoted to assistant general freight agent at St. Paul, relieving Mr. Woulfe. **Curtis C. Thompson**, commercial agent at Chicago, has been advanced to general agent, freight department, with headquarters at Kansas City.

Mr. Hardy entered railway service in 1908 as a clerk of the Great Northern at Spokane, Wash., and one year later he went with the Spokane & Inland Empire (now part of the Great Northern) where he served in various capacities until 1927 when he returned to the Great Northern as traveling freight agent, with headquarters at Spokane. In 1935 Mr. Hardy was promoted to general agent, with the same headquarters, and in 1939 he was advanced to the position he held at the time of his new appointment.

Mr. Merritt was born at Port Huron, Mich., on January 26, 1876, and after a public school education he entered railway service on April 12, 1893, as an agent and telegrapher for the Flint & Pere Marquette

(now part of the Pere Marquette). He served in this capacity and as a yardmaster until 1906, when he went with the Great Northern as an agent, later representing this road at various points in North Dakota and Montana. In 1919 he was sent to Seattle, Wash., as station inspector, later holding the positions of traffic agent, general agent and assistant general freight agent at various points. Late in 1931, he was advanced to general freight agent, with headquarters at San Francisco and in December, 1937, he was promoted to the position he held at the time of his retirement.

Thomas L. Norton, general eastern freight agent of the Chicago & North Western at New York, has been promoted to



Thomas L. Norton

assistant traffic manager, with headquarters at Chicago. **Charles A. Miller**, general agent at Washington, D. C., has been advanced to eastern general freight agent, with headquarters at New York, succeeding Mr. Norton.

Mr. Norton entered railway service with the North Western in 1921 as a general clerk at Maywood, Ill., subsequently serving as cashier and agent at that point. In 1928 he was advanced to city agent at Cleveland, Ohio, and in 1937 he was transferred to New York. Later Mr. Norton



Charles A. Miller

was promoted successively to general perishable agent and general agent, freight department, and in 1943 he was advanced

to the position he held at the time of his new appointment.

Mr. Miller entered railway service with the North Western as a ticket clerk at Ames, Iowa, in 1922. In the same year he was transferred to Council Bluffs, Iowa, and four years later he was promoted to city agent, with headquarters at Philadelphia, Pa. In 1938 he was advanced to the position he held at the time of his new appointment.

E. A. Lavery, traveling freight agent of the Canadian National at North Bay, Ont., has been appointed district freight agent at London, Ont.

Major McElvey L. Corbett has resumed his duties as general agent of the Illinois Central at Atlanta, Ga., after serving in the United States Army Transportation Corps since February, 1943.

F. T. Sturtevant, freight traffic manager of the Baltimore & Ohio at Baltimore, Md., has been transferred to Cincinnati, Ohio, succeeding **C. H. Pumphrey**, who has retired after 44 years of service.

James M. Graham, traffic representative of the New York, New Haven & Hartford at Pittsburgh, Pa., has been named industrial agent at New York. **Albert E. Spette** has been named assistant to general passenger agent at New York.

J. P. Gilbert, commercial agent of the Alton & Southern at Pittsburgh, Pa., has been appointed general agent there succeeding **Major C. E. Lang**, who will be re-assigned upon his discharge from military service.

Dewey E. Manderson, district freight agent of the Southern at Birmingham, Ala., has been promoted to division freight agent, with headquarters at Mobile, Ala., succeeding **E. B. Kelly**, who has resigned. **Clyde M. Patton** has been appointed district freight agent, with headquarters at Birmingham, replacing Mr. Manderson.

James W. Lee, commercial agent of the Southern at Detroit, Mich., has been named assistant general freight agent at Jacksonville, Fla.; **Ernest E. Loudermilk**, commercial agent at Jacksonville, has been promoted to district freight agent there; **S. I. Barnes** has been appointed district passenger agent at Atlanta, Ga., and **C. L. Toney**, division passenger agent at Columbia, S. C., has been transferred to Richmond, Va.

A. Blauel, assistant freight traffic manager of the Erie at Chicago, has been appointed freight traffic manager there, succeeding **F. G. Lantz**, who has retired after 58 years' service. **E. C. Hallberg**, general agent at Chicago, has been promoted to assistant freight traffic manager replacing Mr. Blauel, and **F. M. Klitz**, assistant general freight agent at New York, has been named to Mr. Hallberg's former post. **George Pettersen**, commercial agent at Baltimore, Md., has been advanced to general agent there succeeding **H. E. Fee**, who has resigned. **Henry O. Dunkle**, general agent at Cleveland, Ohio, has retired after 42 years of service. **W. P. Van Iderstine**, chief of tariff bureau at New

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October 6, 1945

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York, has been appointed assistant general freight agent with the same headquarters, and **J. H. Sisco**, chief of division bureau at New York, has been named to succeed him.

Howard G. Pierson, whose retirement as traffic manager of the Lehigh & Hudson River at Warwick, N. Y., was announced in the *Railway Age* of September 22, was born at Warwick on January 24, 1870, and entered railroading on September 27, 1889, as a clerk in the auditor's office of the Lehigh & Hudson River. He served as chief clerk to the general freight agent from December, 1894, to August, 1895, when he was named assistant general freight agent. When that position was abolished in December, 1902, he became chief clerk to the general freight and passenger agent, and three years later he was promoted to general freight and passenger agent. On June 15, 1927, he was further advanced to traffic manager, the position from which he has now retired.

ENGINEERING & SIGNALING

F. S. Wilkins, division engineer of the Canadian National at Charlottetown, P. E. I., has retired.

W. P. Mink, assistant signal engineer of the Union Pacific, has been promoted to signal engineer of the south-central and northwestern districts, with headquarters at Salt Lake City, Utah.

C. C. Robnett, division engineer of the Chicago, Burlington & Quincy at St. Joseph, Mo., has been promoted to hydraulic engineer, with headquarters at Chicago, a newly-created position. **F. O. Schafer**, instrumentman, has been advanced to division engineer, with headquarters as before at St. Joseph, succeeding Mr. Robnett.

W. M. Vandersluis, general superintendent of telegraph and signals of the Illinois Central, with headquarters at Chicago, has retired after 33 years of service. His work will be taken over jointly by **J. M. Trissal**, electrical engineer of fixed property, who will assume the title of superintendent of communication and electrical engineer, and **H. G. Morgan**, who will retain his previous title of signal engineer, both with headquarters at Chicago.

MECHANICAL

J. D. Loftis has been appointed general superintendent motive power of the Atlantic Coast Line at Wilmington, N. C.

J. H. Burger, assistant master mechanic of the Illinois Central at Markham, Ill., has been promoted to master mechanic, with headquarters at Champaign, Ill., succeeding **D. L. McMillan**, assigned to other duties.

P. J. Johnson, division master mechanic of the Canadian Pacific at Montreal, Que., has been appointed district master mechanic there succeeding **H. Smith**, transferred.

Ivan R. Pease, assistant superintendent of motive power of the New York, Ontario & Western at Middletown, N. Y., has been

appointed superintendent of motive power there.

Major Otto C. Gruenberg has returned to his former position as superintendent of motive power of the New York, Susquehanna & Western. Major Gruenberg had been serving as a transportation officer in the United States Army for the past three years.

W. B. Berry, assistant superintendent of motive power of the St. Louis-San Francisco at Springfield, Mo., has been promoted to superintendent of motive power, with the same headquarters, succeeding **F. G. Lister**, whose death on August 20 was reported in the *Railway Age* of September 29. **W. H. Gimson**, master mechanic at Tulsa, Okla., has been advanced to assistant superintendent of motive power, relieving Mr. Berry, and **Thomas Murray**, general foreman at North Springfield, Mo., has been promoted to master mechanic at Tulsa, replacing Mr. Gimson.

PURCHASES AND STORES

J. E. Marceau has been appointed purchasing agent of the Rutland, at Rutland, Vt., succeeding **R. C. Arnoll**, deceased. **T. E. Halpin**, general agent at Detroit, Mich., has been promoted to assistant to purchasing agent.

SPECIAL

Frank A. Johnson has been appointed assistant to the chief personnel officer of the Missouri Pacific Lines, with headquarters at St. Louis, Mo.

H. W. Quinlan, manager, dining service, of the New York, New Haven & Hartford at Boston, Mass., has been appointed assistant manager, personnel, at New Haven, Conn.

Thomas C. Hanna, acting editor of the Mutual Magazine, the Pennsylvania's employee publication, since November, 1944, has been appointed editor succeeding **J. R. Mecouch**, who retired in December, 1944.

Dalton Young, advertising and publicity assistant of the Norfolk & Western at Roanoke, Va., has been appointed special representative of the Southern at Washington, D. C.

W. D. Lamprecht, assistant superintendent of the San Joaquin division of the Southern Pacific, at Bakersfield, Cal., has been promoted to assistant manager of personnel, at San Francisco, Cal., a new position.

Steve Canton, who was serving as air express publicity representative of Railway Express at the time of his induction into the United States Army, has been honorably discharged and has returned to Railway Express to assume publicity activities for rail express.

W. C. Griffin, assistant manager, Port Traffic Office, of the Car Service division of the Association of American Railroads at San Francisco, Cal., has been appointed district manager, San Francisco district, of the Car Service division, with the same headquarters, succeeding **H. A. Huckaba**,

assigned to other duties. The position of assistant manager of port traffic at San Francisco has been abolished.

OBITUARY

John J. Monks, who retired in 1943 as assistant freight traffic manager of the Pittsburgh & Lake Erie (part of the New York Central System), died at Pittsburgh, Pa., on September 16.

J. N. K. Macalister, who retired in October, 1944, as chief commissioner, department of immigration and colonization of the Canadian Pacific, at Montreal, Que., though continuing to act as consultant to the department, died on September 3 at Montreal.

Percy Hotspur Lash, assistant to comptroller of the Chesapeake & Ohio, the New York, Chicago & St. Louis, and the Pere Marquette, at Cleveland, Ohio, died on October 1 at Clifton Forge, Va. Mr. Lash, who was born at Portsmouth, Va., on August 3, 1874, was graduated from William and Mary College, Williamsburg, Va. After serving with the Southern, the Merchants & Miners Transportation Co., and the Bureau of Valuation of the Interstate Commerce Commission, he was appointed valuation accountant of the Chesapeake & Ohio at Richmond, Va., in 1924. He transferred to Cleveland as assistant to comptroller in 1931, and remained in that post until the time of his death.

Frank R. Hoon, superintendent stations and transfers of the Pennsylvania's Central region at Pittsburgh, Pa., died at Columbus, Ohio, on September 26. Mr. Hoon was born at East Brady, Pa., on May 18, 1894, and entered railroading with the Pennsylvania as a clerk and baggageman at East Brady on September 22, 1913. After serving as clerk at East Brady and at Ford City, Pa., for the next five years, he became chief clerk at Ford City in 1918, and served in that capacity until 1928, when he became agent and yardmaster. In 1931 Mr. Hoon was appointed livestock agent at Pittsburgh and two years later he was promoted to freight agent at Canton, Ohio. In 1936 he became supervising agent of the Eastern division, and he was promoted to freight agent at Cleveland, Ohio, on July 1, 1940. Mr. Hoon was advanced to superintendent stations and transfers in January, 1942.

C. & O. ADVERTISING.—Third in the series of Chesapeake & Ohio advertisements relating to the outlook for employment and industrial activities along C. & O. lines deals with "Making Post-war Jobs Out of Glass." This is but one of the many industries upon which the railroad will touch in the current series.

M. R. S. CHAPLAINS.—There are now 39 chaplains serving army railroaders in the European Theater of Operations. Recently Maj. Richard L. Alexander, who acted as senior chaplain in Headquarters, 1st M. R. S., was appointed head of all chaplains in the entire theater. Last month, in Frankfurt, Germany, Major Alexander was presented with the Bronze Star Medal, by Maj. Gen. Carl R. Gray, Jr., director general of the Military Railway Service.

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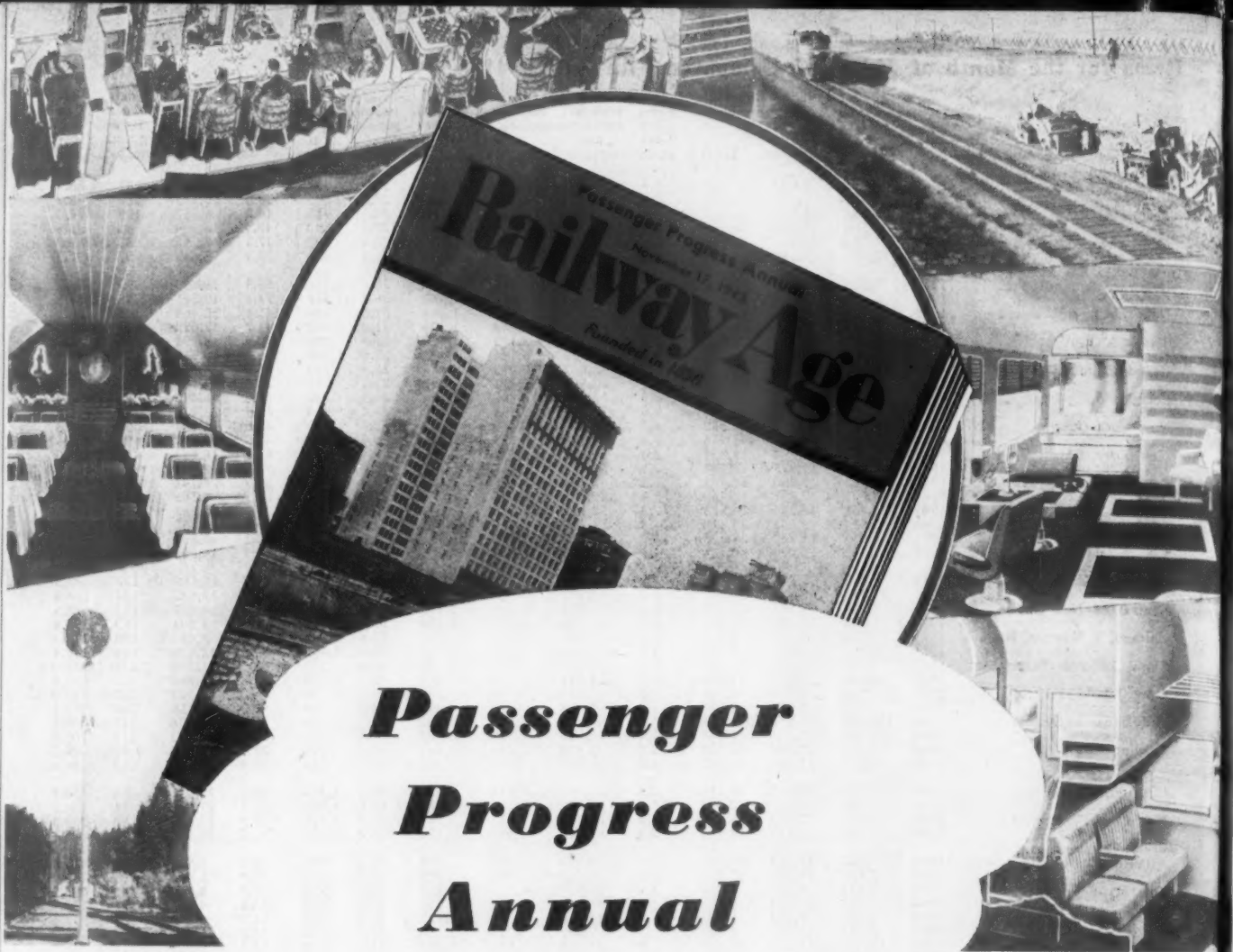


Freight Operating Statistics of Large Steam Railways—Selected

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Road locos. on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross excl. locos. & tenders	Net-rev. and non-rev.	Serviceable		B. O.	Per cent B. O.		
									Unstored	Stored				
New England Region:														
Boston & Albany	1945	362	166,846	186,420	28,523	3,631	61.1	246,671	103,403	65	..	25	11.7	
	1944	362	156,277	196,785	33,253	3,782	61.5	257,048	108,016	79	..	14	13.2	
Boston & Maine	1945	1,777	329,191	341,962	16,246	12,512	68.8	802,882	361,183	116	20	18	10.3	
	1944	1,807	375,095	425,729	41,823	13,193	65.9	870,149	389,531	145	..	22	8.5	
N. Y., New H. & Hartf.	1945	1,815	431,562	600,057	44,722	16,798	69.6	1,016,823	449,708	201	27	43	17.0	
	1944	1,815	496,609	609,584	57,379	17,639	64.3	1,131,276	486,632	224	5	26	15.6	
Great Lakes Region:														
Delaware & Hudson	1945	846	299,322	365,544	37,019	12,967	67.9	927,916	495,412	118	65	36	16.4	
	1944	846	319,058	390,712	37,362	13,497	65.8	975,010	512,213	126	54	34	15.9	
Del., Lack. & Western	1945	971	368,280	419,054	55,376	15,692	70.4	1,034,399	495,595	129	36	41	19.9	
	1944	971	372,661	437,332	65,750	16,264	68.0	1,087,368	514,505	143	28	28	14.1	
Erie	1945	2,243	849,707	903,919	69,758	41,024	67.5	2,679,282	1,181,609	299	30	60	15.4	
	1944	2,244	959,226	1,028,037	73,364	44,413	64.9	2,973,179	1,274,364	322	22	57	14.2	
Grand Trunk Western	1945	1,026	263,975	268,426	2,020	8,322	69.9	529,409	240,797	64	2	11	14.3	
	1944	1,026	256,610	261,328	2,178	8,160	65.8	528,474	228,903	67	..	10	13.0	
Lehigh Valley	1945	1,247	388,023	430,244	64,232	17,123	65.9	1,201,490	597,142	131	27	11	6.5	
	1944	1,247	596,230	664,818	88,307	25,041	59.3	1,841,719	866,707	152	..	15	9.0	
New York Central	1945	10,331	3,336,590	3,585,477	228,735	126,896	65.6	8,088,241	4,132,746	1,049	47	307	21.9	
	1944	10,325	3,622,193	3,909,255	242,715	138,394	62.7	9,746,059	4,560,165	1,136	15	239	17.2	
New York, Chi. & St. L.	1945	1,656	760,401	716,290	9,660	29,083	70.5	1,854,566	854,406	153	27	19	9.5	
	1944	1,657	860,437	871,294	9,800	34,054	65.6	2,271,422	1,020,424	173	..	16	8.5	
Pere Marquette	1945	1,915	412,367	429,533	9,520	14,683	69.6	959,392	459,548	133	3	26	16.0	
	1944	1,915	459,789	471,371	11,655	15,494	65.4	1,042,690	485,887	146	2	24	14.0	
Pitts. & Lake Erie	1945	229	95,919	96,791	64	4,090	65.4	343,156	201,341	37	..	14	27.5	
	1944	229	92,512	97,913	56	4,222	66.7	360,448	216,864	33	..	12	26.7	
Wabash	1945	2,381	696,869	719,133	17,108	25,008	71.6	1,600,612	732,210	170	..	40	19.0	
	1944	2,381	783,634	804,261	19,461	28,310	68.4	1,852,073	834,210	173	3	45	20.4	
Central Eastern Region:														
Baltimore & Ohio	1945	6,095	2,361,714	2,937,393	313,071	84,558	65.5	6,136,103	3,138,183	903	4	265	22.6	
	1944	6,113	2,569,340	3,218,249	336,343	90,538	63.4	6,672,388	3,341,333	922	..	213	18.8	
Central of New Jersey	1945	654	199,886	230,015	51,495	7,626	66.2	551,288	284,386	106	14	30	20.0	
	1944	655	249,312	290,927	63,835	8,704	61.7	632,463	310,748	125	10	21	13.5	
Chicago & Eastern Ill.	1945	912	263,413	266,045	6,214	7,472	63.8	519,242	245,058	69	4	10	12.0	
	1944	912	347,076	358,472	11,803	10,567	58.7	763,509	342,840	79	..	7	8.1	
Elgin, Joliet & Eastern	1945	392	117,201	122,282	3,467	3,467	67.8	263,749	143,387	49	7	17	23.3	
	1944	392	132,724	136,444	3,987	3,667	65.4	288,115	155,667	61	..	12	14.4	
Long Island	1945	372	40,298	42,519	16,426	576	54.5	40,780	15,235	45	..	6	11.8	
	1944	372	39,027	40,994	15,349	469	54.4	35,190	13,362	44	..	6	12.0	
Pennsylvania System	1945	10,024	4,343,205	5,075,084	695,335	172,447	66.0	12,196,329	6,070,789	1,992	10	219	9.9	
	1944	9,872	4,889,061	5,680,393	732,601	191,068	62.8	13,754,820	6,669,041	1,980	2	213	9.7	
Reading	1945	1,365	538,329	597,290	71,518	18,676	67.5	1,408,609	785,716	253	37	39	11.9	
	1944	1,409	576,230	652,375	82,852	19,071	65.5	1,429,970	772,996	251	17	51	16.0	
Pocahontas Region:														
Chesapeake & Ohio	1945	3,038	1,067,596	1,139,545	55,777	49,715	58.6	4,166,907	2,402,543	452	6	61	11.8	
	1944	3,032	1,093,212	1,174,053	57,591	51,984	57.9	4,466,261	2,576,951	435	8	79	15.1	
Norfolk & Western	1945	2,139	681,367	729,806	52,290	32,077	60.6	2,699,339	1,472,429	254	33	15	5.0	
	1944	2,132	799,397	853,814	63,447	37,793	59.0	3,210,618	1,714,323	278	33	21	6.3	
Southern Region:														
Atlantic Coast Line	1945	4,926	898,110	907,195	14,272	23,024	65.2	1,526,997	691,986	384	6	28	6.7	
	1944	4,953	939,796	954,130	14,593	24,954	65.8	1,671,679	768,306	375	14	30	7.2	
Central of Georgia	1945	1,783	316,687	326,302	6,260	7,545	69.7	491,614	226,603	95	..	8	7.8	
	1944	1,783	384,495	394,987	6,329	9,064	65.7	606,195	273,847	95	..	10	9.5	
Gulf, Mobile & Ohio	1945	1,931	311,286	399,996	2,273	11,534	75.6	723,055	350,069	104	1	9	7.9	
	1944	1,950	304,410	384,153	3,350	11,131	74.8	715,244	351,364	112	..	13	10.4	
Illinois Central (incl. Yazoo & Miss. Vv.)	1945	6,346	1,550,053	1,563,738	47,415	58,029	65.1	4,012,331	1,925,735	635	2	55	7.9	
	1944	6,347	1,650,434	1,664,144	30,495	64,095	63.4	4,455,982	2,083,125	653	..	44	6.3	
Louisville & Nashville	1945	4,745	1,544,979	1,674,301	43,493	40,612	64.8	2,851,078	1,451,506	413	11	66	13.5	
	1944	4,734	1,604,920	1,735,005	44,447	41,427	63.8	2,972,671	1,523,784	409	15	56	11.7	
Seaboard Air Line	1945	4,157	792,466	824,371	19,151	22,125	67.8	1,421,123	630,479	256	16	61	18.3	
	1944	4,161	907,742	971,196	17,438	24,851	67.8	1,622,870	736,739	293	4	45	13.2	
Southern	1945	6,471	2,157,403	2,191,845	40,019	49,917	70.3	3,094,495	1,405,175	623	..	97	13.5	
	1944	6,471	2,213,741	2,261,377	33,411	50,142	68.2	3,217,758	1,469,172	591	..	94	13.7	
Northwestern Region:														
Chi. & North Western	1945	8,062	1,053,080	1,090,203	25,179	34,850	67.9	2,361,668	1,097,775	358	11	109	22.8	
	1944	8,074	1,020,379	1,062,616	20,748	33,275	66.5	2,266,507	1,031,525	363	13	105	21.7	
Chicago Great Western	1945	1,445	280,082	285,697	6,941	9,148	75.3	577,859	264,843	66	..	15	18.5	
	1944	1,445	264,435	271,007	7,169	8,476	71.7	543,318	245,541	73	..	8	9.9	
Chi., Milw., St. P. & Pac.	1945	10,723	1,564,417	1,675,490	89,665	56,229	65.0	3,805,061	1,733,917	511	33	69	11.3	
	1944	10,715	1,449,925	1,537,199	72,269	49,569	68.5	3,313,347	1,580,831	499	47	66	10.8	
Chi., St. P., Minneap. & Om.	1945	1,606	196,113	212,378	12,441	5,459	72.4	361,174	170,195	86	13	29	22.7	
	1944	1,606	200,747	216,654	11,668	5,220	69.3	351,884	162,108	99	25	11	8.1	
Duluth, Missabe & I. R.	1945	546	170,532	171,179	1,510	9,373	50.8	877,569	538,332	46	..	1	2.1	
	1944	546	179,077	179,972	1,932	9,957	50.7	936,410	576,256	51	..	1	1.9	
Great Northern	1945	8,275	1,225,234	1,227,940	64,343	52,947	66.3	3,797,734	1,863,832	389	27	49	10.5	
	1944	8,276	1,208,709	1,201,983	48,766	48,627	66.6	3,565,425	1,825,490	391	18	58	12.4	
Min., St. P. & S. St. M.	1945	4,259	444,107	453,102	9,922	12,855	67.0	884,834	431,841	124	1	15	10.7	
	1944	4,259	423,778	435,421	7,403	12,079	66.7	832,972	404,516	127	2	6	4.4	
Northern Pacific	1945	6,577	1,014,460	1,082,342	73,970	42,905	72.8	2,851,148	1,365,026	382	6	56	12.6	
	1944	6,571	953,395	1,020,901	76,103	40,602	73.0	2,714,193	1,342,615	365	16	60	13.6	
Central Western Region:														
Alton	1945	915	261,579	277,233	612	7,022	69.2							

Items for the Month of July 1945 Compared with July 1944

Region, road, and year	Freight cars on line			Per Cent B. O.	G.t.m. per train-hr. and tenders	G.t.m. per train-mi. excl. locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day	
	Home	Foreign	Total											
New England Region:														
Boston & Albany	1945	241	5,601	5,844	0.5	26,821	1,655	623	28.5	571	32.8	9,214	181	85.3
1944	385	4,996	5,381	0.2	26,821	1,655	695	28.6	605	34.5	9,625	187	88.2	
Boston & Maine	1945	1,878	10,979	12,857	2.1	37,922	2,446	1,100	28.9	913	46.0	6,557	100	76.0
1944	2,506	10,460	12,966	3.5	36,955	2,329	1,043	29.5	943	48.4	6,954	96	93.1	
N. Y., New H. & Hartf.t.	1945	1,750	18,433	20,183	3.5	33,170	2,364	1,045	26.8	700	37.5	7,993	83	84.7
1944	3,407	19,444	22,851	3.9	34,576	2,312	995	27.6	672	37.9	8,649	97	87.2	
Great Lakes Region:														
Delaware & Hudson	1945	3,508	6,235	9,743	4.2	53,476	3,119	1,665	38.2	1,529	58.9	18,890	99	62.2
1944	3,233	5,794	9,027	3.2	52,536	3,071	1,613	38.0	1,779	71.3	19,531	98	67.2	
Del., Lack. & Western	1945	4,576	12,757	17,333	3.6	43,161	2,840	1,361	31.6	914	41.1	16,464	105	80.8
1944	6,039	12,774	18,813	2.8	43,474	2,948	1,395	31.6	896	41.7	17,093	110	89.8	
Erie	1945	8,339	30,424	38,763	2.9	52,593	3,173	1,400	28.8	989	50.9	16,993	90	88.2
1944	8,692	30,128	38,820	3.1	51,951	3,114	1,335	28.7	1,086	58.3	18,319	85	95.4	
Grand Trunk Western	1945	1,978	8,523	10,501	5.2	42,027	2,023	920	28.9	773	38.2	7,571	79	120.6
1944	3,286	7,589	10,875	4.5	42,598	2,071	897	28.1	712	38.6	7,197	79	116.9	
Lehigh Valley	1945	5,888	17,614	23,502	2.9	52,010	3,207	1,594	34.9	787	34.3	15,447	94	99.3
1944	7,851	22,265	30,116	2.0	53,602	3,188	1,500	34.6	954	46.5	22,420	99	151.6	
New York Central	1945	41,283	93,289	134,572	4.3	42,315	2,639	1,255	32.6	979	45.8	12,904	96	97.8
1944	47,317	98,629	145,946	3.2	44,176	2,723	1,274	33.0	1,010	48.9	14,247	96	105.5	
New York, Chi. & St. L.	1945	2,070	13,781	15,851	2.4	51,003	2,639	1,216	29.4	1,763	85.1	16,643	82	124.3
1944	2,793	15,975	18,768	2.1	50,321	2,657	1,193	30.0	1,809	92.0	19,865	81	158.7	
Pere Marquette	1945	2,803	9,362	12,165	3.8	42,130	2,345	1,123	31.3	1,235	56.7	7,741	86	92.2
1944	2,731	9,691	12,422	3.1	40,875	2,296	1,070	31.4	1,310	63.9	8,185	85	98.2	
Pitts. & Lake Erie	1945	4,231	10,344	14,575	7.3	52,191	3,582	2,102	49.2	458	14.2	28,362	85	69.8
1944	3,514	9,608	13,122	4.3	54,399	3,896	2,344	51.4	536	15.6	30,549	83	77.5	
Wabash	1945	5,655	13,730	19,385	4.4	44,676	2,316	1,061	29.3	1,260	60.1	9,930	102	117.6
1944	6,352	13,778	20,130	3.1	46,306	2,382	1,073	29.5	1,336	66.3	11,302	98	125.0	
Central Eastern Region:														
Baltimore & Ohio	1945	37,439	54,608	92,047	4.9	32,441	2,651	1,356	37.1	1,089	44.8	16,609	137	92.8
1944	41,163	58,234	99,397	3.3	32,391	2,657	1,330	36.9	1,067	45.6	17,632	134	104.8	
Central of New Jersey	1945	3,516	14,883	18,399	6.4	31,955	2,860	1,475	37.3	496	20.1	14,027	113	78.5
1944	5,940	15,426	21,366	3.0	33,971	2,552	1,254	35.7	477	21.7	15,304	119	96.8	
Chicago & Eastern Ill.	1945	1,910	4,525	6,435	7.0	37,990	2,026	956	32.8	1,143	54.6	8,668	108	110.3
1944	2,565	5,403	7,968	3.3	39,318	2,277	1,022	32.4	1,452	76.3	12,126	104	142.4	
Elgin, Joliet & Eastern	1945	8,397	5,410	13,807	2.9	19,528	2,371	1,289	41.4	330	11.8	11,799	131	76.0
1944	8,949	5,907	14,856	3.0	18,819	2,296	1,240	42.5	338	12.2	12,810	123	85.5	
Long Island	1945	18	6,011	6,029	.5	7,630	1,040	389	26.4	86	6.0	1,321	287	56.0
1944	27	5,938	5,965	.4	7,154	926	352	28.5	80	5.2	1,159	264	52.1	
Pennsylvania System	1945	112,130	120,655	232,785	5.3	40,042	2,897	1,442	35.2	834	35.9	19,536	117	90.1
1944	125,515	119,525	245,040	3.4	40,158	2,904	1,408	34.9	875	39.9	21,792	113	101.0	
Reading	1945	10,164	22,907	33,071	2.8	35,438	2,619	1,461	42.1	776	27.3	18,568	97	74.5
1944	12,514	25,233	37,747	1.6	30,919	2,482	1,342	40.5	684	25.8	17,697	113	84.6	
Pocahontas Region:														
Chesapeake & Ohio	1945	35,311	20,805	56,116	2.0	57,883	3,954	2,280	48.3	1,374	48.5	25,311	74	78.9
1944	35,472	17,215	52,687	1.4	60,072	4,131	2,384	49.6	1,559	54.4	27,417	71	84.7	
Norfolk & Western	1945	28,813	7,522	36,335	1.9	64,367	4,011	2,188	45.9	1,309	47.0	22,206	83	90.5
1944	30,795	8,633	39,428	2.2	65,440	4,072	2,174	45.4	1,395	52.1	25,938	84	95.3	
Southern Region:														
Atlantic Coast Line	1945	7,303	16,958	24,261	1.4	29,319	1,708	774	30.1	981	50.1	4,531	119	73.8
1944	7,797	15,541	23,338	3.0	31,059	1,786	821	30.8	1,011	49.9	5,004	103	79.7	
Central of Georgia	1945	2,041	6,563	8,604	1.1	28,597	1,559	718	30.0	831	39.7	4,100	140	108.3
1944	1,599	6,588	8,187	1.5	30,063	1,587	717	30.2	1,065	53.6	4,954	124	129.9	
Gulf, Mobile & Ohio	1945	1,439	7,163	8,602	.6	41,172	2,329	1,128	30.4	1,250	54.5	5,848	106	118.1
1944	2,011	6,837	8,848	.7	40,937	2,358	1,158	31.6	1,233	52.2	5,812	104	106.3	
Illinois Central (incl. Yazoo & Miss. Vv.)	1945	18,239	35,228	53,467	.9	44,018	2,653	1,273	33.2	1,150	53.3	9,789	111	78.9
1944	18,617	32,687	51,304	1.0	45,437	2,768	1,294	32.5	1,285	62.4	10,587	107	81.7	
Louisville & Nashville	1945	27,190	18,533	45,723	6.5	29,690	1,845	939	35.7	1,031	44.5	9,868	122	118.6
1944	29,086	15,486	44,572	4.0	29,612	1,852	949	36.8	1,079	45.9	10,383	119	123.5	
Seaboard Air Line	1945	5,518	16,148	21,666	1.5	32,165	1,832	813	28.5	941	48.7	4,892	118	88.7
1944	6,013	16,864	22,877	2.1	31,231	1,828	830	29.6	1,035	51.5	5,712	131	101.4	
Southern	1945	13,431	33,241	46,672	3.2	24,682	1,456	661	28.2	1,000	50.5	7,005	141	105.1
1944	16,427	33,281	49,708	2.5	25,509	1,476	674	29.3	955	47.8	7,324	138	113.4	
Northwestern Region:														
Chi. & North Western	1945	19,576	32,733	52,309	3.9	34,876	2,338	1,087	31.5	688	32.2	4,392	114	82.2
1944	23,965	31,190	55,155	3.2	35,461	2,303	1,048	31.0	605	29.3	4,121	111	77.5	
Chicago Great Western	1945	970	4,600	5,570	3.2	36,362	2,077	952	29.0	1,562	71.7	5,912	116	120.8
1944	1,147	4,942	6,089	1.9	35,752	2,061	931	29.0	1,325	63.8	5,481	117	116.0	
Chi., Milw., St. P. & Pac.f.	1945	20,731	37,201	57,932	1.6	39,256	2,454	1,118	30.8	1,009	50.3	5,216	112	100.5
1944	25,568	28,078	53,646	1.8	36,655	2,309	1,101	31.9	925	42.3	4,759	114	92.0	
Chi., St. P., Minneap. & Om.	1945	870	6,241	7,111	8.8	25,408	1,870	881	31.2	772	34.2	3,419	98	60.1
1944	735	6,110	6,845	7.7	24,916	1,778	819	31.1	719	33.4	3,256	102	58.4	
Duluth, Missabe & I. R.	1945	14,709	270	14,979	2.6	94,271	5,304	3,253	57.4	1,150	39.4	31,805	58	133.3
1944	14,844	501	15,345	3.1	95,718	5,369	3,304	57.9	1,210	41.3	34,046	58	128.1	
Great Northern	1945	20,763	29,256	50,019	2.2	48,370	3,126	1,534	35.2	1,212	51.9	7,266	88	95.2
1944	24,155	16,507	40,662	2.5	46,428	2,970	1,521	37.5	1,418	56.7	7,115	84	92.2	
Min., St. P. & S. St. M.t.	1945	5,534	6,701	12,235	3.6	34,800	2,009	980	33.6	1,128	50.1	3,271	84	106.3
1944	6,554	6,570	13,124	3.0	34,352	1,981	962	33.5	992	44.4	3,064	84	108.3	
Northern Pacific	1945	15,491	22,370	37,861	4.0	43,287	2,834	1,357	31.8	1,135	49.0	6,695	121	90.9
1944	17,883	20,211	38,094	3.3	44,959	2,861	1,415	33.1	1,181	4				



Passenger Progress Annual

POST-WAR railway passenger progress is on the march! To tell what is happening in the new era of railway passenger service and equipment which is now opening, the *Railway Age* has designated its November 17 issue to be the sixth Passenger Progress Annual.

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Manufacturers who plan to feature their products in the advertising pages of the Passenger Progress Annual should send copy and cuts to the New York office of the *Railway Age* by November 1, the closing date.

NOVEMBER 17, 1945, ISSUE

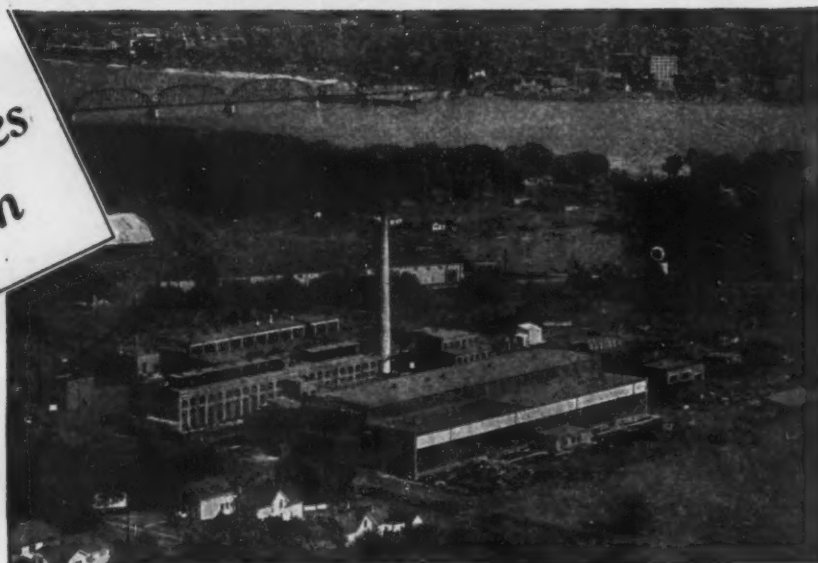
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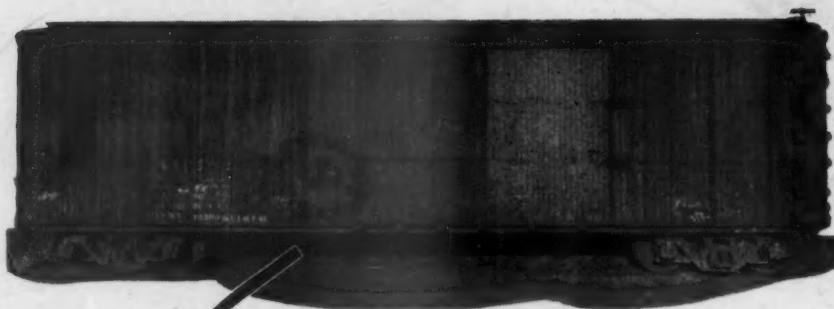
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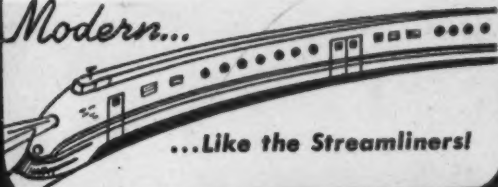
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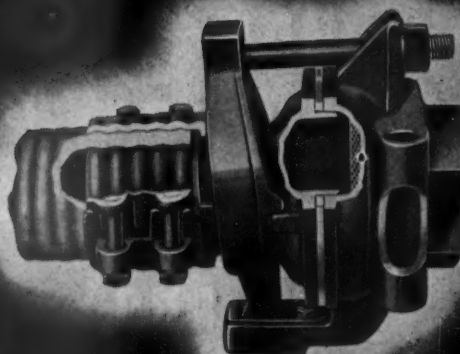
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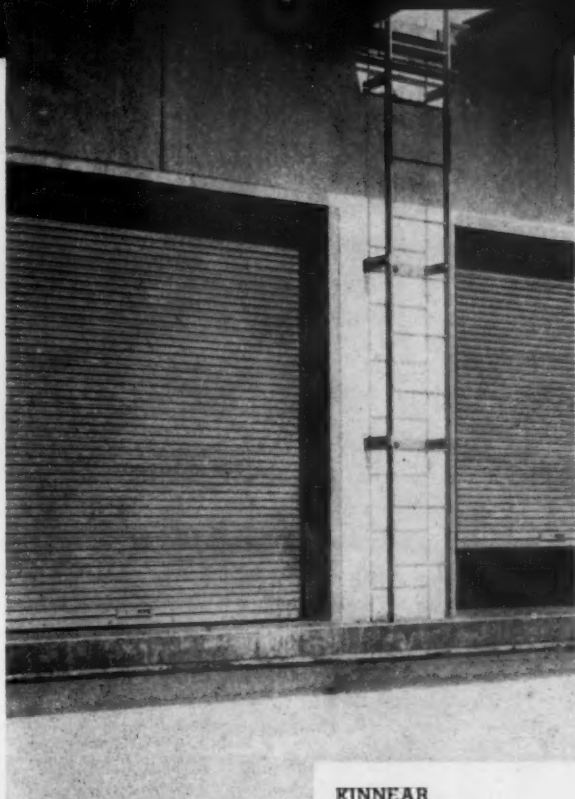


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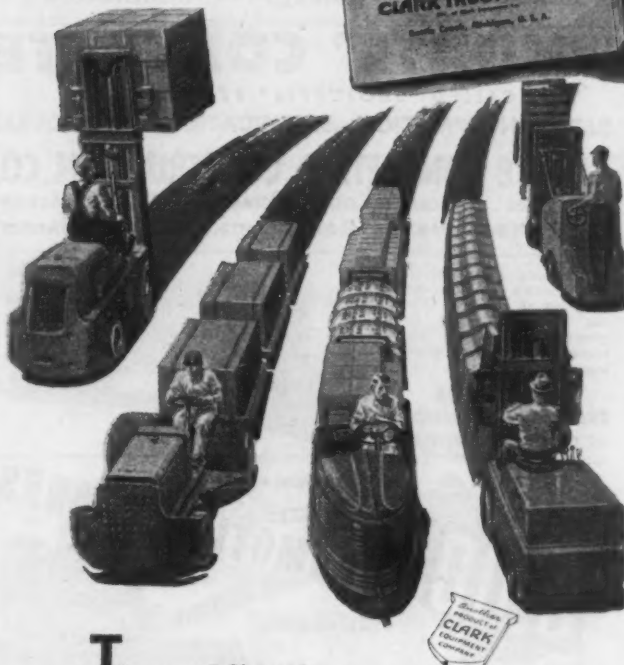
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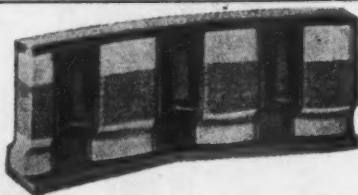
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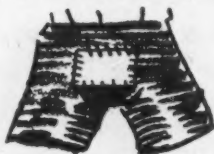


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6, Dump, Mager, 30-Yd., 50-Ton; Lift Door
1, Dump, Clark, Automatic, 30-Yd., 50 Ton; Drop Door
4, Dump, K & J Automatic, Lift Door; 37-Yd., 50-Ton
20, Dump, Koppel, Automatic, 20-Yd., 40-Ton; Lift Doors
10, Dump, K & J Automatic Lift Door; 20-Yd., 50-Ton
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AVAILABLE. "Superintendent of Class I Railroad desires connection with larger railroad. Twelve years experience in Operating Department including two years as Supervisor of Personnel. Thirty-three years of age. Can furnish best of references. Prefer work in Middle West. Available at once. Address Box 763, Railway Age, 105 West Adams Street, Chicago 3, Illinois."

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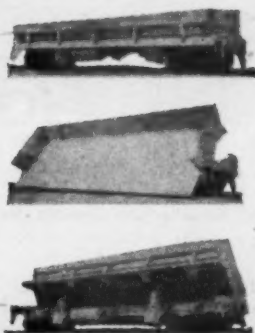
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The pages are either missing or the pagination is incorrect.

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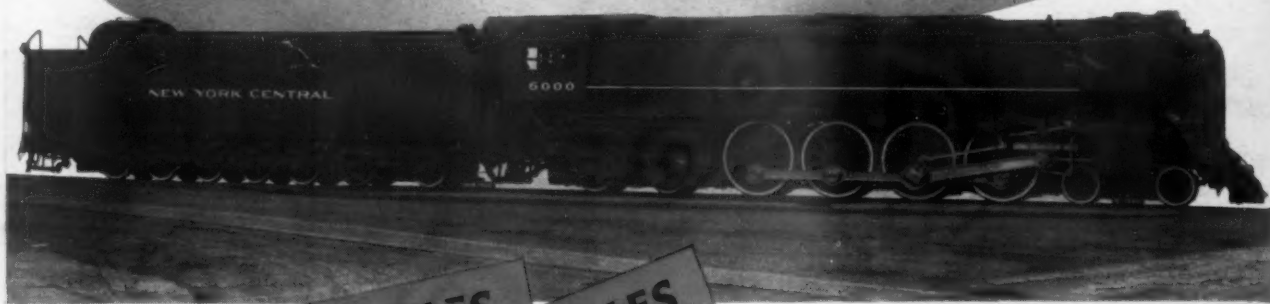


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